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NATIONAL ENVIRONMENTAL POLICY

HEARING

BEFORE THE

COMMITTEE ON

INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

NINETY-FIRST CONGRESS

FIRST SESSION

ON

S. 1075, S. 237, and S. 1752

BILLS TO AUTHORIZE THE SECRETARY OF THE INTERIOR
TO CONDUCT INVESTIGATIONS, STUDIES, SURVEYS, AND
RESEARCH RELATING TO THE NATION'S ECOLOGICAL
SYSTEMS, NATURAL RESOURCES, AND ENVIRONMENTAL
QUALITY, AND TO ESTABLISH A COUNCIL ON ENVIRON-
MENTAL QUALITY

APRIL 16, 1969



Printed for the use of the
Committee on Interior and Insular Affairs

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1969

9-661

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NATIONAL ENVIRONMENTAL POLICY

WEDNESDAY, APRIL 16, 1969

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, at 10:10 a.m., in room 3110, New Senate Office Building, Senator Henry M. Jackson (chairman) presiding.

Present: Senators Jackson, Anderson, Bible, Moss, Nelson, Metcalf, Allott, Jordan of Idaho, Hansen, Hatfield, Stevens, and Bellmon.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; William J. Van Ness, special counsel; Daniel Dreyfus, professional staff member, and Charles Cook, minority counsel.

The CHAIRMAN. The committee will come to order.

The purpose of this morning's hearing is to take testimony on S. 1075, S. 237, and S. 1752. These three bills were introduced by the chairman, Senator McGovern, and Senator Nelson. At this point in the record a copy of the bills and departmental reports will be inserted.

(The data referred to follow:)

[S. 1075, 91st Cong., first sess.]

A BILL To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That it is the purpose of this Act to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources and the environmental forces affecting them and responsible for their development and future well-being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research.

TITLE I

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(d) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environmental Quality established under title II of this Act.

SEC. 102. In carrying out the provisions of this title, the Secretary is authorized to make grants, including training grants, and enter into contracts or co-operative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

SEC. 103. The Secretary shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 104. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

SEC. 105. Nothing in this Act is intended to give, or shall be construed as giving the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purpose of identifying and eliminating any unnecessary duplication of effort.

SEC. 106. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

TITLE II

SEC. 201. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Council from such members.

SEC. 202 (a) The primary function of the Council shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to be conservation, social, economic, and health goals of this Nation. In carrying out this function, the Council shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice and assistance to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President.

(c) It shall be the duty and function of the Council and the Secretary of the Interior to assist and advise the President in the preparation of the biennial environment quality report required under section 203.

SEC. 203. The President shall transmit to the Congress annually beginning June 30, 1970, an environmental quality report which shall set forth (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 204. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 205. There are hereby authorized to be appropriated such sums as are necessary to carry out the purposes of this title.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: Your Committee has requested this Department's report on two similar bills, S. 1075 and S. 1752.

While we favor the objectives of these bills, we do not recommend their favorable consideration in view of President Nixon's announced intention to establish an interdepartmental Environmental Quality Council.

Both bills would establish in the Office of the President an environmental council composed of members appointed by the President with the advice and consent of the Senate to advise the President on environmental problems. In addition, both bills would authorize the Secretary of the Interior to undertake two major groups of programs relating to the environment.

First, Interior would prepare surveys and document and define changes in the natural environment and receive and maintain data on ecological research. These are enormous tasks requiring much time and money. While effort in this direction is needed, a much clearer description of objectives should be developed before we attempt to legislate a program in this area.

Second, under the bills, Interior would encourage public and private agencies to utilize the ecological data which it develops. Public works projects which affect the environment are carried out by many agencies. Yet the bills are not specific on how Interior would comment on those projects. If Interior must depend on other agencies coming to it, it is doubtful that many will. If Interior should volunteer its comments, it may well be viewed as an interloper by other agencies and by those who benefit from the projects. If the agencies were required to come to Interior, present administrative procedures would need to be changed.

The Department of the Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined. However, this Department does not have the sole responsibility for environmental matters. Other Federal agencies are concerned with air, farmland, forests, and other matters affecting the environment. The bills do not recognize these complex jurisdictional relationships, but rather tend to duplicate functions now carried out by these agencies.

In summary, we believe that the President's Council which is now contemplated is an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, we are confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

RUSSELL E. TRAIN,
Under Secretary of the Interior.

DEPARTMENT OF AGRICULTURE,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs,
U.S. Senate.*

DEAR MR. CHAIRMAN: This is in response to your request for a report on S. 1075, a bill "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality."

Title I of the bill would authorize the Secretary of the Interior (1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) to document and define changes in the natural environment, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and their underlying causes; (3) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment; (4) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; (5) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals; (6) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring and maintaining, and enhancing the quality of the environment; (7) to initiate and utilize ecological information in the planning and development of resource oriented projects; (8) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment; (9) to conduct research and studies within natural areas under Federal ownership which are under his jurisdiction and under the jurisdiction of other Federal agencies; and (10) to assist the Council on Environmental Quality.

In addition, the Secretary of the Interior would be required to consult with and provide technical assistance to Federal agencies and would be authorized to obtain from them whatever information, data, reports, advice, and assistance are needed and could reasonably be furnished in carrying out the purposes of the bill. Any Federal agency furnishing advice or assistance would be authorized to expend its own funds for such purposes, with or without reimbursement. The Secretary would be authorized (1) to make grants to and to enter into contracts or cooperative agreements with public or private agencies or organizations or individuals, (2) to accept and use donations of funds, property, personal services or facilities, and (3) to participate in environmental research in surrounding oceans and in other countries if he determines that such activities would contribute to the objectives and purposes of the bill.

The bill specifically states that it is not intended to give or to be construed as giving the Secretary of the Interior any authority over any authorized program of another department or agency and that it would not repeal, modify, restrict, or amend existing authorities or responsibilities of any department or agency with respect to the natural environment. The Secretary would be required to consult with the heads of departments and agencies to identify and eliminate duplication of effort.

Title II of S. 1075 would create in the Executive Office of the President a three member Council on Environmental Quality, appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate,

with the Chairman and vice chairman designated by the President. Each member would be professionally qualified to analyze and interpret environmental trends of all kinds and be conscious of and responsive to specific, economic, social, aesthetic and cultural needs and interests of the Nation.

The Council would study and analyze environmental trends and factors that affect the trends, relating each area of study and analysis to the conservation, social, economic, and health goals of the Nation. It would (1) report annually to the President on the state and conditions of the environment, (2) provide advice and assistance to the President on national policies needed to foster and promote improvement of environmental quality, and (3) obtain information concerning the quality of the environment and make it available to the public.

The Council would periodically review and appraise new and existing programs and activities of Federal agencies and make recommendations thereon to the President.

The Council, and the Secretary of the Interior, would assist and advise the President in the preparation of an annual environmental quality report.

Beginning June 30, 1970, the President would transmit annually to the Congress an environmental quality report which would set forth (1) the status and conditions of the major natural, man-made, or altered environmental classes of the Nation, and (2) the current and foreseeable trends in quality, management, and utilization of such environments, and the effects of those trends on the social, economic, and other requirements of the Nation.

This Department agrees that there is a need for further and continuing research into the natural environmental systems of the United States. It has many programs in research on soil and water conservation and forestry that deal with the problems discussed in the bill. The research program of the Forest Service presently includes studies of the natural environmental factors affecting most of our renewable natural resources, including forests, forested and related range lands, wildlife habitat, recreation, and water conservation and watershed management. Such research embraces all aspects of the ecology of most of the organisms that make up or affect the whole or any part of these resources. Study of related sociologic and economic factors are also a part of this research. The research activities of the Agricultural Research Service also involve ecology of our national environmental systems. The Soil Conservation Service has the national leadership of the National Cooperative Soil Survey which is actively engaged in classifying and mapping the soils of the United States. The soil survey reports include interpretations of the basic soils information for all suitable uses of the land including natural vegetation and wildlife. Any broader ecological studies would of necessity overlap or duplicate this effort.

The research organization and programs of this Department extend to both public (Federal, State, and local) and private lands. We cooperate actively with other public and private research organizations, including schools and universities. The results of our research program, and the benefits therefrom, are disseminated or available to and used by both public and private landowners in the management of their natural resources. Research of natural environmental systems which S. 1075 would authorize does not lend itself to area limitations such as National Forests, National Parks, or other political or administrative jurisdictions.

A number of Federal agencies, in addition to this Department as well as the Department of the Interior, have on-going investigations, studies, surveys, and research in this general field. We believe that the Committee on Environmental Quality that was established by the Office of Science and Technology is usefully serving as a body to coordinate planning and activities in this field. This inter-agency group is giving certain technical coordination to the Federal programs in this area of concern.

Section 101(c) of the bill would authorize the Secretary of the Interior to develop and maintain an inventory of both public and private projects which may make significant modification in the natural environment.

Many agencies maintain inventory records of that kind of projects. S. 1075 would require the establishment of an extensive new records and reporting system covering numerous public and private activities, large and small, and would require a large organization to assemble, analyze, clarify, and record the inventory information. Furthermore, so many known and unknown activities or related factors make, or may make, significant modifications in natural environment systems that definitions and criteria for inventory subjects would be a task of major proportions in itself.

We recommend against enactment of Title I. As pointed out above, not only this Department, but also a number of other Federal agencies, are engaging in a variety of research, study, and investigatory activities related to ecological systems and environment, and compile and maintain inventories of projects and activities. The broad scope of authorities in Title I would substantially overlap and duplicate those efforts. We believe that prior to the enactment of new authorities, a careful and comprehensive review of present activities, priorities, and capabilities of the agencies concerned is needed.

We support the objectives of Title II of S. 1075 concerning a Council on Environmental Quality. The environment in which we live affects, for better or worse, our health, our outlook and attitudes, our opportunities for a satisfactory life, and even our prospects for continued existence. There is constant interplay of resource use and exploitation, manufacturing processes, and air, water, and soil pollution, with efforts to maintain continuing production, a healthy environment and attractive surroundings. Many of these factors are affected, favorably or adversely, by Federal, State and local programs and activities and by the everyday activities of agriculture, industry and people. We believe that our complex and highly technical society could well benefit from a continuing, detached, broad perspective, constructive, and understanding appraisal of factors that affect our environment.

However, we do not recommend enactment of the provisions of Title II. There is now under consideration establishment of an environmental quality council within the Executive Office of the President. Such a council, we believe, would be able to assist and advise the President on national policies in the field of environmental policy and conduct an assessment of current activities in this area.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., April 17, 1969.

HON. HENRY A. JACKSON,
*Chairman, Senate Committee on Interior and Insular Affairs,
New Senate Office Building, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Bureau of the Budget on S. 237, S. 1075 and S. 1752. These bills have a basic objective in common: to enhance the Government's capability of dealing with the critical problems of the quality of our environment. Also common to them is the creation of a council in the Executive Office of the President to assist and advise the President on national policies to improve environmental quality.

We concur fully in the basic objective of the bills. The quality of man's environment is being increasingly affected by man's own works, and additional efforts are required to assess the nature of the hazards and the means for their avoidance or amelioration.

The President recently reemphasized his concern on this matter and indicated that actions are underway to assure continuing attention by his Administration to environmental factors in the planning and carrying out of Federal programs. A variety of organizational arrangements for accomplishing this objective are now under consideration in the agencies and by the President.

One of the major difficulties in dealing with this area is the broad, almost all encompassing nature of the term "environment." Programs of a number of Federal agencies have as a principal concern the protection or enhancement of aspects of the environment. Other programs affect the environment in various ways. Consequently, organizational arrangements alone will not suffice. It also is necessary to integrate specific environmental considerations into the decision-making processes of many agencies to make real progress. As Interior noted in its report to your Committee on S. 1075 and S. 1752, a complex set of jurisdictional relationships needs to be evaluated before proposing any new responsibilities or new organization.

As we indicated, improved organizational arrangements for better coordination of policy and program concerns in the field of environmental quality are under

active review within the executive branch. In present circumstances, we believe that such arrangement, particularly those in the Executive Office of the President designed to provide better policy advice and staff assistance to the President, should be undertaken by executive action rather than by legislation in order to assure flexibility necessary in exploratory or pilot efforts and in meeting changing needs.

Accordingly, we do not recommend favorable action at this time on the subject bills.

Sincerely,

WILFRED H. ROMMEL,
Assistant Director for Legislative Reference.

NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., April 22, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: On March 28 you invited me to testify at hearings to be held on April 15 and 16 on the bill S. 1075, "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality." Subsequently, in discussions with your staff, we have learned that pressures of time available for discussing the bill make it preferable for me to submit a letter for the record.

The National Science Foundation supports the objectives of the bill. The interests of the Foundation in environmental problems have been growing for many years and we have become a major source of federal support for academic research in the sciences of the environment. The Foundation's mission does not entail responsibility for action programs designed to ameliorate social problems, to improve health, to abate pollution, or to modify the environment. Instead, the Foundation's mission is to aid in improving the store of scientific knowledge on which future action can be based. Thus, Foundation programs, while not specifically problem or solution oriented, are of great importance in maintaining and improving the nation's ability to understand and cope with the problems relating to the human environment.

In direct support of research on one or another aspect of the environment such as atmospheric sciences, oceanography, environmental biology, earth sciences, etc., the Foundation obligated \$77,807,000 in fiscal year 1968. It is estimated that the corresponding total for FY 1969 will be approximately \$72,730,000. (The slight decrease is a result of a reduction in our total appropriation and does not represent the assignment of lower priority to these science areas.) This amounts to approximately $\frac{1}{3}$ of the Foundation's support of scientific research. More directly, the Foundation has established an Ecosystem Analysis Program within its Division of Biological and Medical Sciences. For the immediate future this Program will have as its major responsibility the administration of Foundation support of the major ecological systems studies being conducted as a part of the International Biological Program (IBP).

In addition to the support of scientific research related to the environment, another contribution of the Foundation is the training and education of young people in all of the basic science areas; including development of improved curricula, the training of teachers, and the administration of direct assistance to high ability students. Other Foundation programs with a direct bearing on U.S. long-range ability in environmental science and technology include science information activities, the application of computer techniques and technology to research and education, international cooperative scientific activities and science policy studies.

The foregoing paragraphs summarize the National Science Foundation's contributions to scientific understanding of our environment. They serve as a prelude to my specific comments on the proposed bill, S. 1075, in order to demonstrate the Foundation's long-standing support of the environmental sciences and our consequent keen interest in the development of related programs. Title I proposes "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural

resources and environmental quality." The list of activities in Section 101, paragraphs (a) through (j) would cover a broad range of ecological research and related activities to which more attention should be directed. We do not perceive any necessary conflict between the work that would be performed under these several authorities listed and research and training currently planned and in progress under support of the National Science Foundation, even though the objectives coincide to some degree with existing programs of the Foundation. However, ecological research, studies and training are performed by a number of other agencies and any new authority would necessitate a careful review of these activities.

Title II of the proposed S. 1075 would create in the Executive Office of the President a Council on Environmental Quality. As you are no doubt aware, the President has recently established a Council for Urban Affairs and has signified his intention to create a Cabinet level Council on the Quality of the Environment. I understand that Dr. DuBridge has discussed this feature of the bill with you and I would like to defer to him for comment on the proposed Council. However, as indicated above, I do believe that environmental problems are of such great importance that adequate provision should be made to provide all levels of government with the best scientific and technological base from which to make the difficult decisions regarding the best use of our environment.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely yours,

LELAND J. HAWORTH,
Director.

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I refer to your letter of March 12, receipt of which was acknowledged on March 18, in which you requested a report on S. 1075, a bill "to authorize the Secretary of the Interior to conduct investigations, studies, surveys and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality".

It is noted that the Bill proposes to provide for a comprehensive and continuing program of study, review, and research for the purpose, among other things, of promoting and fostering means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources.

The Department of State appreciates the purpose of the Bill. However, our response here is directed only to the question of environmental quality as it affects this Department. We are not commenting on the manner in which a Council on Environmental Quality might be established and are not commenting on specific allocations of responsibility to the Secretary of the Interior.

The Department wishes to call attention to the fact, moreover, that the objective of the Bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers. Nature, technological interference, the demands of a population steadily growing in number and opulence, and sheer neglect, produce pollutants which transcend national boundaries. Pollution may be national in origin; its effects and control are international.

Growing recognition of the inter-relatedness of the world's ecosystems, on the one side, and of the common danger of pollution to human life, health and welfare, on the other, have prompted governments everywhere to take official cognizance, and where possible, counter-measures. There is legitimate fear that these problems are increasing in virulence and in their rate of incidence. There is growing awareness that many of them are shared by a number of nations, either because the same problems co-exist in different countries or because they are the result of mutual pollution. As a result governments have begun to seek remedy through joint counter-action by using either bilateral or multilateral channels.

International agencies both intergovernmental and nongovernmental including, the United Nations, ILO, FAO, WHO, WMO, UNESCO, ECE, IAEA, OECD, et al, have for some time been engaged in various programs dealing with specific problems of the environment, e.g. air pollution, water pollution, solid waste disposal, etc. A report of activities of the U.N. organization is attached. Until recently, however, none of these organizations have attacked the total spectrum of environmental problems.

Within the last two years, a number of initiatives have been launched by international agencies which reflect broader vision and which, in fact, were devised to encompass the full range of at least the principal facets of the environmental problem. Most important among these initiatives have been:

1. *The International Biological Program*, a cooperative research effort by scientists of 50 nations with the objective of making a world-wide study of organic production of the land, in fresh waters and in the sea and a world-wide study of human adaptability to the changing conditions.

2. *The Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere*, convened and organized by UNESCO, which produced 20 recommendations calling for action by governments, intergovernmental and non-governmental organizations with respect to various subjects of research; and proposed a long-term, intergovernmental and inter-disciplinary program. A copy of the Conference Report, including the recommendations is attached.

3. *The Meeting of the Preparatory Group for the Meeting of Governmental Experts on Problems Relating to the Environment*, held in February 1969 under the auspices of the Economic Commission for Europe (ECE) to prepare the agenda for a Meeting of Governmental Experts to be held at Prague, Czechoslovakia, in 1971. In keeping with the character of ECE, the conference will focus on economic aspects of the environmental problem obtaining within the ECE region (including the United States). A copy of the report of the meeting is attached.

4. *The U.N. Conference on Human Environment*. This conference was decided upon by unanimous resolution of the U.N. General Assembly on December 3, 1968 (A/Res/2398-XXIII). A copy is attached. Its rationale is the desire "to provide a framework for comprehensive consideration within the United Nations of the problems of human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question and also to identify those aspects of it that can only or best be solved through international cooperation and agreement".

Coincidental with inter-governmental initiatives, others are going forward at the non-governmental and governmental level. Among the more significant is the appointment by the International Council of Scientific Unions (ICSU) of an "Ad-Hoc Committee on Problems of the Human Environment" which will prepare a report on those man-made problems of the environment "which are of international concern" and "toward the solution of which the scientific competence represented by ICSU could effectively be applied".

The U.S. Government has participated in all the above initiatives. It has had a major share in promoting some and in formulating some of the principal conclusions and recommendations, notably by the UNESCO and ECE Conferences.

It is now actively engaged in the preparation of the U.N. Conference and has submitted its proposals on purpose, scope, objectives and agenda, as requested by the Under Secretary-General of the U.N.

The U.S. interest in the international aspects is profound and real. It is dictated by the realization that the human environment is one, and that it would be fallacious and arbitrary to divorce the international aspects from the national. It has been fully documented that air and water pollution, to mention but two, are not respecters of international boundaries. Pollutant problems now considered local in character may be regional or international tomorrow and thus we cannot afford to be indifferent nor complacent about global pollution. It is this international nature of the threat and the concomitant need for international cooperation that has already focused United States attention on the need for a broad approach to environmental problems.

Speaking to our NATO partners on April 10, 1969 President Nixon said—
 "(W)e all have a unique opportunity to pool our skills, our intellects and our inventiveness in finding new ways to use technology to enhance our environments . . . recognizing that these problems have no national or regional boundaries."

Secretary of State Rogers in his appearance before the Senate Foreign Relations Committee emphasized that—

"The fact that . . . we are preparing for a world conference on the human environment is indicative of the degree to which technological development will continue to require institutionalized multilateral cooperation."

In a sense the deterioration of the environment is only one of many problems that face all nations. But, as Herman Pollack, Director of International Scientific and Technological Affairs pointed out before the House Subcommittee on Science, Research and Development, it is the one problem that accentuates and aggravates all others: population pressures, inadequate food, shelter and medical care. To arrest and reverse it, calls for the combined effort of all nations.

It is for this reason, Mr. Chairman, we suggest that with respect to any action taken on the question of environmental quality, recognition should be given to the following facts:

1. The deterioration of the national environment is part of a global process and thus requires remedial action on an international as well as national scale.

2. Study, review and research must, therefore, be extended to take into account problems and problem areas beyond national borders and to enlist the cooperation of other governments and the scientists of other nations.

3. The solution of the environmental problem being a matter of national interest as well as of international concern, U.S. participation in bilateral and multilateral programs dealing with the international aspects of the problem must be recognized as a vital part of U.S. policy to cope with environmental problems.

The Bureau of the Budget advises that from the standpoint of the Administration's program there is no objection to submission of this report.

Sincerely yours,

WILLIAM B. MACOMBER, Jr.,

Assistant Secretary for Congressional Relations.

(The enclosures referred to are in the files of the Committee.)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,

May 28, 1969.

Hon. HENRY M. JACKSON,

*Chairman, Committee on Interior and Insular Affairs, U.S. Senate,
Washington, D.C.*

DEAR MR. CHAIRMAN: This letter is in response to your request of March 12, 1969, for a report on S. 1075, a bill "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality," and your request of March 13, 1969, for a report on S. 237, a bill "To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes," and your request of April 3, 1969, for a report on S. 1752, the "Resources, Conservation and Environmental Quality Act of 1969."

S. 1075 would authorize the Secretary of the Interior directly or through grants and contracts to (1) conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) document and define changes in the natural environment; (3) develop and maintain an inventory of existing and future natural resource development projects and other major projects; (4) establish a system of collecting and receiving information and data on ecological research and evaluation which are in progress or are planned; (5) evaluate and disseminate information of an ecological nature to public and private agencies; (6) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment; (7) initiate and utilize ecological information in the planning and development of resource-oriented projects; (8) encourage other public or private agencies planning development projects to consult with the Secretary of the Interior on the impact of the proposed projects on the natural environment; (9) conduct research and studies within natural areas under Federal ownership; and (10) assist the Council on Environmental Quality that would be established under the legislation.

The bill would not give the Secretary of the Interior authority over programs

of other Departments or Agencies of the Government with respect to the natural environment.

The bill would also create in the Executive Office of the President a Council on Environmental Quality composed of three members qualified to interpret environmental trends and be conscious of and responsive to the scientific, economic, social, esthetic and cultural needs and interests of the Nation. The Council would advise and assist the President in the formulation of national policy, annually report on the condition of the environment and review program activity of Federal agencies. These functions would be carried out by studying and analyzing environmental trends and the factors that effect these trends with relation to the conservation, social, economic and health goals of the Nation.

S. 237 would require the President to annually submit to the Congress a Report on Resources, Conservation, and the Environment. The report would include the conditions of the environment and other natural resources, trends in environmental quality and management and utilization of natural resources, adequacy of natural resources to fulfill human and economic requirements, review programs and activities of Federal, State and local government and nongovernmental entities and individuals and programs to carry out the policies together with recommended legislation.

The bill would also create in the Executive Office of the President a Council of Advisers on Resources, Conservation and the Environment. The function of the Council would be to (1) assist the President in preparing the Report on Resources, Conservation, and the Environment; (2) gather timely and authoritative information concerning natural resources conservation, and development of environmental quality trends; (3) appraise the various programs and activities of the Federal Government in light of the declared policy of this legislation; (4) develop and recommend to the President national policies to foster and promote conservation and improve the environment to meet human and economic requirements; (5) make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal resources policy and legislation as the President may request.

S. 237 would also establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment for the purpose of consideration of the Report on Resources, Conservation, and the Environment.

S. 1752 is very similar to S. 1075, except that in addition to containing similar provisions as S. 1075, the bill (S. 1752) contains provisions similar to those in S. 237 which would establish a joint Congressional committee to make studies on matters relating to the Environmental Quality Report, also provided for in the bill. This Congressional committee would be known as the Joint Committee on Environmental Quality.

We strongly support an appropriate mechanism for the development of a coordinated national policy on environmental quality. This Department conducts many programs concerned with the environment. These programs almost exclusively concern the effects of environmental stress on human health and welfare. Included in these programs are activities concerned with the effect of environmental forces on man in his home, in the community, and in the workplace, and the environment as it relates to products used by man and their effect on him.

In conducting these programs we have many relationships with other Federal agencies. Some of these are formalized such as that between this Department and the Department of the Interior regarding the public health aspects of water pollution control where the relationship is established by law. Other working relationships are less formal and include, for example, cooperative undertakings conducted through interagency agreements and participation in the activities of committees established under the Federal Council on Science and Technology.

As concern with environmental quality matters has grown and as more Federal agencies have become extensively involved with protecting and improving the environment, it has become obvious to this Department that there is a need for better planning and coordination of the numerous activities in the environmental area by both the Executive and Legislative Branches of the Government. We are therefore fully in agreement with the objectives of these bills to establish a mechanism for planning and coordinating the environmental quality programs of the Nation.

We are in favor of the objectives in these bills to create in the Executive Office of the President a Council to advise his on matters pertaining to the environment. We would prefer the flexibility of a Council set up administratively.

The Administration is now considering the establishment of a Council in this manner. Consequently, we do not recommend enactment of the provisions in these bills which would establish by statute such a Council in the Executive Department.

In regard to the provision of S. 237 which would establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment, and the provision in S. 1752 which would establish a Joint Committee on Environmental Quality, we note there is similar legislation before the Congress such as S. Res. 78, "To establish a Select Committee on Technology and the Human Environment." We defer to the Congress concerning the establishment of this special committee.

With respect to the authorizations in S. 1075 and S. 1752 for the Department of the Interior to conduct studies and research relating to ecological systems and environmental quality, we should like to point out that there are a number of agencies in the Executive Branch which already have missions and responsibilities bearing on this overall problem. We believe careful consideration and review of all agency activities is needed prior to the enactment of any new authorizations; and such a review is contemplated by the Council referred to above. We note incidentally that both S. 1075 and S. 1752 include provisions specifically stating that the authorizations provided the Department of the Interior would in no way restrict or modify any authority of any other Department or agency of the Government.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

ROBERT H. FINCH, *Secretary.*

STATEMENT OF MYRON TRIBUS, ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Mr. Chairman and Members of the Committee, as a former resident of Los Angeles, I am pleased to present the views of the Department of Commerce on S. 237, S. 1075, and S. 1752, all of which deal with environmental quality. I can well remember teaching a class in engineering and noticing that one of the students was sitting with a strange expression on his face while tears rolled down his cheek. I stopped the lecture and went over to him and said softly, "Have you had some sort of personal difficulty? I notice that you are weeping." He said to me, "No sir, it's this smog, it's killing me."

In discussing air and water pollution, it is useful to begin by remembering that the earth is surrounded by a relatively thin envelope of fluid, some of it gaseous, and some of it liquid. The debris of what has been called the "effluent society" is dumped into streams of air and streams of water and is carried large distances. A factory discharging particles may deposit tons of dirt downstream. It may also introduce ice nuclei into the atmosphere and change the weather. An airplane dusting crops may leave small particles of pesticides in the air to be blown over natural foliage many miles away.

Most of us live in a man-made world and we are only now beginning to realize that the impact of man on his environment—by the burning of fossil fuels, by the expansion of cities, by the flight of aircraft, and by the launching of space vehicles—may inadvertently and adversely modify our weather and climate.

As I said in the beginning, the earth is surrounded by fluids and it is the motion of these fluids which carries the pollutants from their source to the places where the damage is done. We in the Department of Commerce have been charged with responsibilities to observe, measure, monitor and predict the state of this fluid environment. The Department has statutory responsibility for maintaining the Nation's system for monitoring and predicting the state of the atmosphere and the ocean as well as maintaining historical records reflecting changes in our environment.

Concern over environmental quality within the Department of Commerce is reflected in a wide range of activities. I would like to review briefly our interest and outline several of the areas in which we are providing support. A number of our administrations and bureaus are involved in this effort. These include the Environmental Science Services Administration (ESSA), the National Bureau of Standards, the Maritime Administration, the Business and Defense Services Administration and the Economic Development Administration.

For proper assessment of the future of our natural environment it is necessary to observe and measure its present state, to predict its future course and condition, and to study through simulation the impact of man's activities on the environment. In its role of monitoring the sea and the atmosphere throughout its entire depth, the Environmental Science Services Administration (ESSA) is making a strong contribution to our knowledge of the environment, and will be able to assess changes likely to occur in the future. Environmental Science Services Administration provides strong support to Federal, State and local programs in the control of both air and water pollution. In the case of air pollution one of the most important aspects is the ability of the atmosphere to disperse and carry away pollutants. Forecasts of air pollution potential are made daily for the Nation and distributed to all interests. A new program for "on the scene" support to State and local pollution control agencies is being implemented in cooperation with the Department of Health, Education and Welfare.

Under the plan Weather Bureau meteorological support units will be established in some 40 of the air pollution control regions established by Health, Education and Welfare. Forecasts of the flow of the Nation's rivers are also made daily by the Weather Bureau. These forecasts will assist materially in controlling the release of pollutants in accordance with the dispersive capacity of these rivers. Tidal currents into and out of bays and estuaries are measured by the Coast and Geodetic Survey. The Survey also maps the bottom topography of these areas at periodic intervals. Such data will contribute to the control of estuarine pollution. In addition a start has been made toward the prediction of "estuarine flushing" for controlling the release of pollution. In quite a different field Environmental Science Services Administration maintains an observatory near the summit of Mauna Loa in Hawaii to monitor the increasing pollution load of the world's "clean" air, and thus assist in evaluating possible adverse effects on climate. With support by Health, Education and Welfare and the Atomic Energy Commission, Environmental Science Services Administration scientists conduct a broad research program in measuring and predicting the dispersive capabilities of the atmosphere.

The physical and chemical laboratories of the National Bureau of Standards (NBS) are working on numerous problems associated with environmental quality. The development of standards for measurement of air pollutants represents one aspect of this work. Also important are the studies being made of the chemical reactions which take place among pollutants after they are in the atmosphere and exposed to sunlight. Studies of combustion are leading to a better knowledge of means for controlling sulfur pollutants. Standards for the sulfur content of oil are being developed. Standard reference samples for assessing radiation from radioactive substances are being distributed. Noise as an environmental problem is receiving increased attention. Architectural practices for alleviating building noise have been developed, and an extensive architectural sound laboratory is on the drawing boards. A major effort is focused on developing techniques for the detection of a variety of air, water and soil pollutants. Studies are under way on the corrosion and deterioration of materials and structures due to pollution. Altogether some 50 separate projects in the National Bureau of Standards relate to environmental quality.

Our Economic Development Administration continues to assist in the improvement of environmental quality. During the past three years grants and loans of around \$50 million have been made for sewage treatment facilities across the Nation, and approximately \$250 million have been made available for new or improved water and sewer systems. Grants are also made to assist in the development of recreation areas in support of the tourist industry.

The Business and Defense Services Administration is deeply concerned with the purposes of this proposed legislation. Control or abatement policies designed to improve the quality of our environment will have a far-reaching effect upon the operations of many industries, which have shown an awareness of the need for environmental quality improvement. Industry has already done much in recent years to reduce the level of air and water pollution to meet reasonable standards.

The following examples of our current and recent research activities illustrate the range of the Business and Defense Services Administration interest in the environmental quality problems of industry. The Business and Defense Services Administration has surveyed the availability of gas cleaning equipment for use in air pollution abatement by industry, and has further studied the economic impact of air pollution control on both the gray iron foundry industry and the secondary non-ferrous metals industry. In the area of water pollution, studies

are being made of the relationship of industrial water use to the conservation of water resources by increased reusability of water through quality control. This is being done in association with other agencies and commissions concerned with pollution abatement. Studies have been made of the economic and environmental problems of the auto wrecking and salvage business to develop programs, in cooperation with other agencies, to help rid the country of unsightly junked auto yards.

Business and Defense Services Administration has participated actively in an interdepartmental survey of the problem and costs involved and actions required to assure that the locating of utility transmission and distribution lines and of utility plants is compatible with environmental values.

In the Maritime Administration development is under way on systems and equipment for separation of oil from water to permit ships to discharge bilge and ballast water into the sea while maintaining a minimum of 100 parts per million of oil content. This system will include accurate and reliable instrumentation for monitoring the quality of such discharges.

I would now like to comment on the three bills before this Committee: S. 237, S. 1075, and S. 1752.

While the Department supports the objectives of each of these bills, we are opposed to their enactment at this time for the following reasons.

Title I of S. 1075 and Title I of S. 1752 would assign certain functions respecting the accumulation and evaluation of environmental data to the Secretary of the Interior. These functions may in some instances overlap the statutory responsibilities of this Department and other agencies. Consequently, we feel that a careful review of existing authorities should be undertaken before the need for additional legislation can be properly assessed.

Each of the bills under consideration would establish within the Executive Office of the President an Advisory Council composed of members appointed by the President by and with the advice and consent of the Senate. The functions and duties of the Council would include: studying and analyzing environmental trends, and the factors affecting such trends; advising the President on the formulation of national policies; appraising Federal activities; and issuing periodic reports.

The need for an Advisory Council on the environment has been recognized by the President and steps have already been taken towards its establishment. The Department of Commerce would expect to provide substantial support to the work of this Council. Furthermore, the Council could assist the President in coordinating the activities of the several agencies in providing direction for an integrated national effort. I believe this approach is preferable and that specific legislation authorizing the establishment of an Environmental Quality Council is unnecessary.

In conclusion, I note that Title III of S. 1752 would establish a Joint Committee on Environmental Quality to receive and consider the President's environmental quality report, while Section 5 of S. 237 would establish Select Committees in the House and in the Senate for the same purpose. Since this is a matter of internal organization of the Congress, the Department makes no recommendation with respect to these provisions.

[S. 1752, 91st Cong., first sess.]

A BILL To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION. 1. This Act may be cited as the "Resources, Conservation and Environmental Quality Act of 1969".

DECLARATION OF POLICY

SEC. 2. It is the purpose of this Act to produce an understanding of the Nation's natural resources and the environmental forces affecting them, to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, and to create and maintain a

national policy and conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans through a comprehensive and continuing program of study, research, review, and coordination.

TITLE I—ECOLOGICAL RESEARCH

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(1) to conduct investigations, studies, surveys, research, and analyses;

(2) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(3) to develop and maintain an inventory of natural resource development projects, including reclamation projects, engineering works, and other major projects such as, but not limited to, eradication projects contemplated or planned by public or private agencies or organizations which may make significant modifications in the natural environment;

(4) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(5) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(6) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(7) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(8) to encourage and assist public (non-Federal) or private agencies or organizations, including educational institutions, museums, and botanical and zoological gardens, and other scientific or conservation organizations, or individuals, to acquire, designate, and maintain representative samples of important natural environmental systems, including natural areas for observation and for manipulation, and to encourage such agencies, organizations, and individuals to utilize existing areas under their control or jurisdiction for such purposes;

(9) to establish through interagency coordination, on federally owned lands, a Federal system of natural areas for scientific purposes and develop the means and methods for withdrawal of such areas from nonconforming uses, and provide for their management and protection to serve the natural research needs of all agencies, both public and private; except that in developing standards governing any such withdrawals, the Secretary shall give due consideration to future alternative uses of such areas subject to withdrawal; and

(10) to assist and advise the Council on Environmental Quality established under title II of this Act.

SEC. 102. The Secretary is further authorized for the purposes of this title (1) to make grants and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, (2) to accept and use donations of funds, property, personal services, or facilities, (3) to acquire selected areas of lands or interests in lands by donation, acquisition with donated funds, devise, or exchange for acquired lands or public lands under his jurisdiction which he finds suitable for disposition, (4) to administer such lands or interests for experimental purposes, including the observation and manipulation of natural areas, and (5) to issue such regulations as he deems necessary with respect to the administration of such lands.

SEC. 103. Activities authorized under this title may be carried out on lands under the jurisdiction or control of other departments or agencies of the Government only with the approval of the head of the department or agency concerned.

SEC. 104. The Secretary shall consult with and provide technical assistance to departments and agencies of the Government, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate, and which can reasonably be furnished by such departments and agencies in carrying out the purposes of

this title. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 105. Nothing in this title is intended to give, or shall be construed as giving, the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purpose of identifying and eliminating duplication of effort.

SEC. 106. (a) The Secretary is authorized to establish such advisory committees as he deems desirable for the purpose of rendering advice and submitting recommendations to him relating to the carrying out of the purposes of this title. Such advisory committees shall render advice and submit recommendations to the Secretary upon his request and may submit recommendations to the Secretary at any time on their own initiative. The Secretary may designate employees of the Department of the Interior to serve as secretaries to the committee.

(b) Members of advisory committees appointed by the Secretary may receive not to exceed \$100 per day when engaged in the actual performance of their duties, in addition to reimbursement for travel, subsistence, and other necessary expenses incurred by them in the performance of their duties.

SEC. 107. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

TITLE 11—COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. (a) There is hereby created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate, each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise the environmental quality programs of Federal, State, and local governments, and to formulate and recommend national policy to promote the improvement of the quality of the environment.

(b) The Council may employ such officers and employees as may be necessary to carry out its functions under this title. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this title, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

(c) It shall be the principal duty of the Council to develop comprehensive national policies and programs to improve and maintain the quality of the environment needed to meet the emerging conservation, social, economic, material, and other requirements of the Nation.

(d) In addition to those in subsection (c), it shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the environmental quality report required to be transmitted under section 202;

(2) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and prospective, to analyze and interpret such information and to compile and submit to the President studies relating to such conditions and trends;

(3) to appraise the various programs and activities of the Federal Government (including proposed programs and activities) for the purpose of determining the extent to which such programs and activities affect environmental quality, and to make recommendations to the President with respect thereto;

(4) to make and furnish such studies, reports, and recommendations with respect to matters of policy and legislation as the President may request; and

(5) to foster study and research in the social, technical, administrative, economic, political, and other aspects of environmental quality at institutions of higher learning throughout the Nation.

(e) In exercising its powers, functions, and duties under this title—

(1) the Council shall, on or before December 1, 1969, make a written report to the President, which report shall contain a comprehensive and detailed account of all the activities of the Council since its establishment, together with its conclusions, findings, and recommendations, and shall thereafter, on or before December 1 of each year, make such a report to the President covering any period not covered by such a report previously submitted;

(2) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, State and local governments, and other organizations and groups, as it deems advisable; and

(3) the council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies, organizations, and individuals, in order that duplication of effort and expense may be avoided.

SEC. 202. The President shall transmit to the Congress on or before January 20 of each year, an environmental quality report which shall set forth (1) the status and condition of the major natural, manmade or altered environmental systems of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dry land, wet land, range, urban, suburban, and rural environment; (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; and (3) his recommendations on the formulation and implementation of national policies to protect and enhance the quality of the environment.

TITLE III—JOINT COMMITTEE ON ENVIRONMENTAL QUALITY

SEC. 301. (a) There is hereby established a joint congressional committee which shall be known as the Joint Committee on Environmental Quality. The joint committee shall be composed of eight Members of the Senate, to be appointed by the President of the Senate, and eight Members of the House of Representatives, to be appointed by the Speaker of the House of Representatives. In each case, the majority party shall be represented by five members and the minority party shall be represented by three members. The joint committee shall select a chairman and a vice chairman from among its members.

(b) Vacancies in the membership of the committee shall not affect the authority of the remaining members to execute the functions of the committee.

(c) A majority of the members of the committee shall constitute a quorum thereof for the transaction of business, except that the committee may fix a lesser number as a quorum for the purpose of taking sworn testimony.

(d) No legislative measure shall be referred to the committee, and it shall have no authority to report any such measure to the Senate or the House.

SEC. 302. It shall be the duty of the joint committee to—

(1) conduct a comprehensive study and investigation of appropriate matters contained in any environmental quality report transmitted to the Congress pursuant to title I of this Act and of such matters related thereto as will provide means of coordinating programs in order to further the purposes of this Act, and recommend any such studies and investigations to the appropriate standing committees of the Congress; and

(2) make an annual report to the Congress and the appropriate committees of Congress on or before March 1 of each year on the environmental quality report transmitted to the Congress pursuant to title I of this Act, which report shall contain the findings and recommendations of the committee with respect to the views and recommendations of the President contained in such environmental quality report, and to make, from time to time, such additional reports to the Congress and the appropriate committees of Congress concerning the results of the committee's studies and investigations, together with its recommendations, as it may deem desirable.

SEC. 303. (a) In carrying out its duties under this title, the committee, or any duly authorized subcommittee thereof, is authorized to hold such hearings; to sit and act within or outside the United States at such times and places; to require by subpoena or otherwise the attendance of such witnesses and the production of such books, papers, and documents; to administer such oaths; to take such testimony; to procure such printing and binding; and to make such

expenditures as it deems advisable. The committee may make such rules respecting its organization and procedure as it deems necessary.

(b) Subpenas may be issued over the signature of the chairman of the committee or by any member designated by him or the committee, and may be served by such person as may be designated by such chairman or member. The provisions of sections 102-104 of the Revised Statutes (2 U.S.C. 192-194) shall apply in the case of any failure of any witness to comply with a subpoena or to testify when summoned under authority of this section.

SEC. 304. (a) The committee is authorized to appoint and fix the compensation of such experts, consultants, technicians, and staff employees as it deems necessary and advisable.

(b) Members of the committee, and its employees and consultants, while traveling on official business for the committee within or outside the United States, may receive either the per diem allowance authorized to be paid to Members of the Congress or its employees, or their actual and necessary expenses provided an itemized statement of such expenses is attached to the voucher.

SEC. 305. The expenses of the committee shall be paid from the contingent fund of the Senate from funds appropriated for the committee, upon vouchers signed by the chairman of the committee or by any member of the committee duly authorized by the chairman.

TITLE IV—APPROPRIATIONS

SEC. 401. There are hereby authorized to be appropriated for the fiscal year beginning July 1, 1969, and for each of five succeeding fiscal years, such amounts as may be necessary for the purposes of this Act.

DEPARTMENT OF STATE,
Washington, D.C., April 24, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I refer to your letter of April 3, receipt of which was acknowledged on April 8, in which you requested a report on S. 1752, a bill "to authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes".

It is noted that the Bill proposes to provide for a comprehensive and continuing program of study, review, and research for the purpose, among other things, of promoting and fostering means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources.

The Department of State appreciates the purpose of the Bill. However, our response here is directed only to the question of environmental quality as it affects this Department. We are not commenting on the manner in which a Council on Environmental Quality might be established and are not commenting on specific allocations of responsibility to the Secretary of the Interior.

The Department wishes to call attention to the fact, moreover, that the objective of the Bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers. Nature, technological interference, the demands of a population steadily growing in number and opulence, and sheer neglect, produce pollutants which transcend national boundaries. Pollution may be national in origin: its effects and control are international.

Growing recognition of the interrelatedness of the world's ecosystems, on the one side, and of the common danger of pollution to human life, health and welfare, on the other, have prompted governments everywhere to take official cognizance, and where possible, counter-measures. There is legitimate fear that these problems are increasing in virulence and in their rate of incidence. There is growing awareness that many of them are shared by a number of nations, either because the same problems co-exist in different countries or because they are the result of mutual pollution. As a result governments have begun to seek

remedy through joint counter-action by using either bilateral or multilateral channels.

International agencies both intergovernmental and non-governmental including, the United Nations, ILO, FAO, WHO, UNESCO, ECE, WMO, IAEA, OECD, et al, have for some time been engaged in various programs dealing with specific problems of the environment, e.g. air pollution, water pollution, solid waste disposal, etc. A report of activities of the U.N. organization is attached (Tab A). Until recently, however, none of these organizations have attacked the total spectrum of environmental problems.

Within the last two years, a number of initiatives have been launched by international agencies which reflect broader vision and which, in fact, were devised to encompass the full range of at least the principal facets of the environment problem. Most important among these initiatives have been:

1. *The International Biological Program*, a cooperative research effort by scientists of 50 nations with the objective of making a world-wide study of organic production of the land, in fresh waters and in the sea and a world-wide study of human adaptability to the changing conditions.

2. *The Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere*, convened and organized by UNESCO, which produced 20 recommendations calling for action by governments, intergovernmental and non-governmental organizations with respect to various subjects of research; and proposed a long-term, intergovernmental and interdisciplinary program. A copy of the Conference Report, including the recommendations is attached (Tab B).

3. *The Meeting of the Preparatory Group for the Meeting of Governmental Experts on Problems Relating to the Environment*, held in February 1969 under the auspices of the Economic Commission for Europe (ECE) to prepare the agenda for a Meeting of Governmental Experts to be held at Prague, Czechoslovakia, in 1971. In keeping with the character of ECE, the conference will focus on economic aspects of the environmental problem obtaining within the ECE region (including the United States). A copy of the report of the meeting is attached (Tab C).

4. *The U.N. Conference on Human Environment*. This conference was decided upon by unanimous resolution of the U.N. General Assembly on December 3, 1968 (A/Res/2398-XXIII). A copy is attached (Tab D). Its rationale is the desire "to provide a framework for comprehensive consideration within the United Nations of the problems of human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question and also to identify those aspects of it that can only or best be solved through international cooperation and agreement".

Coincidental with intergovernmental initiatives, others are going forward at the non-governmental and governmental level. Among the more significant is the appointment by the International Council of Scientific Unions (ICSU) of an "Ad-Hoc Committee on Problems of the Human Environment" which will prepare a report on those man-made problems of the environment "which are of international concern" and "toward the solution of which the scientific competence represented by ICSU could effectively be applied".

The U.S. Government has participated in all the above initiatives. It has had a major share in promoting some and in formulating some of the principal conclusions and recommendations, notably by the UNESCO and ECE Conferences.

It is now actively engaged in the preparation of the U.N. Conference and has submitted its proposals on purpose, scope, objectives and agenda, as requested by the Under Secretary-General of the U.N.

The U.S. interest in the international aspects is profound and real. It is dictated by the realization that the human environment is one, and that it would be fallacious and arbitrary to divorce the international aspects from the national. It has been fully documented that air and water pollution, to mention but two, are not respecters of international boundaries. Pollutant problems now considered local in character may be regional or international tomorrow and thus we cannot afford to be indifferent nor complacent about global pollution. It is this international cooperation that has already focused United States attention on the need for a broad approach to environmental problems.

Speaking to our NATO partners on April 10, 1969 President Nixon said—

"(W)e all have a unique opportunity to pool our skills, our intellects and our inventiveness in finding new ways to use technology to enhance our environments . . . recognizing that these problems have no national or regional boundaries."

Secretary of State Rogers in his appearance before the Senate Foreign Relations Committee emphasized that—

"The fact that . . . we are preparing for a world conference on the human environment is indicative of the degree to which technological development will continue to require institutionalized multilateral cooperation."

In a sense the deterioration of the environment is only one of many problems that face all nations. But, as Herman Pollack, Director of International Scientific and Technological Affairs, pointed out before the House Subcommittee on Science, Research and Development, it is the one problem that accentuates and aggravates all others: population pressures, inadequate food, shelter and medical care. To arrest and reverse it, calls for the combined efforts of all nations.

It is for this reason, Mr. Chairman, we suggest that with respect to any action taken on the question of environmental quality, recognition should be given to the following facts:

1. The deterioration of the national environment is part of a global process and thus requires remedial action on an international as well as national scale.

2. Study, review and research must, therefore, be extended to take into account problems and problem areas beyond national borders and to enlist the cooperation of other governments and the scientists of other nations.

3. The solution of the environmental problem being a matter of national interest as well as of international concern, U.S. participation in bilateral and multilateral programs dealing with the international aspects of the problem must be recognized as a vital part of U.S. policy to cope with environmental problems.

The Bureau of the Budget advises that from the standpoint of the Administration's program there is no objection to submission of this report.

Sincerely yours,

WILLIAM B. MACOMBER, Jr.,
Assistant Secretary for Congressional Relations.

NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., May 21, 1969.

Hon. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in further reply to your letter of April 3, 1969, requesting comments of the National Science Foundation on S. 1752, "To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes."

Titles I and II of S. 1752 are virtually identical with S. 1075 on which we commented to you at the time of your hearings on that bill in a letter dated April 22, 1969. Our views on Titles I and II are the same as set forth in that letter, a copy of which is enclosed.

With respect to Titles III and IV of S. 1752, the Foundation would generally favor any measure aimed at facilitating more effective consideration by the Congress of matters relating to environmental quality. We do not, however, consider ourselves qualified to comment on specific organizational proposals internal to the Congress.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration's program

Sincerely yours,

LELAND J. HAWORTH, *Director.*

[S. 237, 91st Cong., first sess.]

A BILL To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SHORT TITLE

SECTION 1. This Act may be cited as the "Resources, Conservation, and Environmental Quality Act of 1969".

DECLARATION OF POLICY

SEC. 2. The Congress hereby declares that it is the continuing policy and responsibility of the Federal Government, with the assistance and cooperation of industry, agriculture, labor, conservationists, State and local governments, and private property owners, to use all practicable means including coordination and utilization of all its plans, functions, and facilities, for the purpose of creating and maintaining, in a manner calculated to foster and promote the general welfare, the quality of the environment in our Nation and conditions under which there will be conservation, development, and utilization of natural resources to meet human, economic, and national defense requirements, including recreational, wildlife, scenic, and scientific values and the enhancement of the national heritage for future generations.

RESOURCES AND CONSERVATION REPORT OF THE PRESIDENT

SEC. 3. (a) The President shall transmit to the Congress not later than January 20 of each year (commencing with the year following enactment of this Act) a report (hereinafter called the Report on Resources, Conservation, and the Environment) setting forth (1) the condition of the environment and of natural resources including soil, water, air, forest, grazing, mineral, wildlife, recreational, and other natural resources with particular reference to attainment of multiple-purpose use; (2) current and foreseeable trends in environmental quality and in management and utilization of natural resources; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation; (4) a review of the programs and activities of the Federal Government, the State and local governments, and nongovernmental entities and individuals with particular reference to their effect on the environment and full conservation, development, and utilization of natural resources; (5) a program for carrying out the policy declared in section 2, together with such recommendations for legislation as he may deem necessary or desirable: *Provided*, That in the preparation of such annual reports, the President may submit major assessments or reassessments of the supply-demand situations on individual resources at such intervals as he determines to be appropriate.

(b) The President may transmit from time to time to the Congress reports supplementary to the Report on Resources, Conservation, and the Environment, each of which shall include such supplementary or revised recommendations as he may deem necessary or desirable to achieve the policy declared in section 2.

The Report on Resources, Conservation, and the Environment, and all supplementary reports transmitted under subsection (b), shall, when transmitted to Congress, be referred in each House to the special committee created by section 5.

COUNCIL OF ADVISERS TO THE PRESIDENT ON RESOURCES, CONSERVATION AND THE ENVIRONMENT

SEC. 4. (a) There is hereby created in the Executive Office of the President a Council of Advisors on Resources Conservation, and the Environment (hereinafter called the Council). The Council shall be composed of three members who shall be appointed by the President, by and with the advice and consent of the Senate, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret policies affecting natural resources and the environment, to appraise programs and activities of the Government in the light of the policy declared in section 2, and to formulate and recommend policy to promote conservation, development, and utilization of natural resources and improvement of the human environment. Each member of the Council shall receive compensation at the rate of \$—— per annum. The President shall designate one of the members of the Council as Chairman and one as Vice Chairman, who shall act as Chairman in the absence of the Chairman.

(b) The Council is authorized to employ, and fix the compensation of an executive officer and such staff assistants and other experts as may be necessary for the carrying out of its functions under this Act, without regard to the civil service laws and the Classification Act of 1923, as amended, and is authorized, subject to the civil service laws, to employ such other officers and employees as may be necessary for carrying out its functions under this Act,

and fix their compensation in accordance with the Classification Act of 1923, as amended.

(c) It shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the Report on Resources, Conservation, and the Environment;

(2) to gather timely and authoritative information concerning natural resource conservation, and development and environmental quality trends, both current and prospective, to analyze and interpret such information in the light of the policy declared in section 2 for the purpose of determining whether such development and trends are interfering, or are likely to interfere, with the achievement of such policy, and to compile and submit to the President studies relating to such developments and trends;

(3) to appraise the various programs and activities of the Federal Government in the light of the policy declared in section 2 for the purpose of determining the extent to which such programs and activities are contributing, and the extent to which they are not contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote conservation, development, and utilization of the natural resources of the Nation and to maintain and improve the environment to meet human and economic requirements, including recreational, wildlife, and scenic values; and

(5) to make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal resource policy and legislation as the President may request.

(d) The Council shall make an annual report to the President in December of each year, who shall forward it to Congress with his Report on Resources, Conservation, and the Environment.

(e) In exercising its powers, functions, and duties under this Act—

(1) the Council may constitute such advisory committees and may consult with such representatives of industry, agriculture, labor, conservationists, State and local governments, and other groups, as it deems advisable; and

(2) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of other Government agencies as well as of private research agencies, in order that duplication of effort and expense may be avoided.

(f) To enable the Council to exercise its powers, functions, and duties under this Act, there are authorized to be appropriated such sums as may be necessary.

SELECT COMMITTEES OF CONGRESS ON THE RESOURCES AND CONSERVATION REPORT

SEC. 5. (a) For the purpose of consideration of the Report on Resources, Conservation, and the Environment, there shall be established in the Senate and in the House of Representatives a special committee on such report to be known as the Select Committee on Resources, Conservation, and the Environment. Such select committee in the Senate shall be made up of the chairman and the ranking majority and minority members from each of the Committees on Interior and Insular Affairs, Public Works, Agriculture and Forestry, and Commerce. Such select committee in the House of Representatives shall be made up of the chairman and the ranking majority and minority members from each of the Committees on Interior and Insular Affairs, Public Works, Agriculture, and Interstate and Foreign Commerce. The President pro tempore in the Senate, and the Speaker in the House of Representatives, shall designate the chairman and vice chairman of each such committee, in their respective bodies and shall call the first meeting thereof within thirty days of the receipt in the Senate or the House of Representatives, respectively, of the Report on Resources, Conservation, and the Environment.

(b) Each such select committee may—

(1) make studies of appropriate matters contained in the Report on Resources, Conservation, and the Environment or of such matters related thereto as will promote the purposes of this Act, or recommend any such studies to the appropriate standing committees of its respective House; and

(2) make such reports on resources and conservation matters and on studies undertaken by it to its respective House as it deems advisable.

(c) For the purposes of this section such select committees may (1) hold hearings; (2) sit and act at such times and places during the sessions, recesses,

and adjourned periods of its respective House; (3) require by subpoena or otherwise the attendance of witnesses and the production of correspondence, books, papers, and documents; (4) administer oaths; (5) take testimony either orally or by deposition; (6) employ such technical, clerical, and other assistants and consultants and, with the prior consent of the executive agency concerned and the Committee on Rules and Administration in the case of the Senate select committee or the Committee on House Administration in the case of the House select committee, employ on a reimbursable basis such executive branch personnel as it deems advisable.

(d) A quorum of each such select committee shall consist of seven members, except that the committees may provide that for the purpose of taking testimony a lesser number shall constitute a quorum.

(e) The expenses of each such select committee shall be paid from the contingent fund of its respective House upon vouchers approved by the chairman pursuant to resolutions of the respective bodies authorizing such expenditures.

DEPARTMENT OF AGRICULTURE.

OFFICE OF THE SECRETARY,

Washington, June 3, 1969.

Hon. HENRY M. JACKSON,

Chairman, Committee on Interior and Insular Affairs,
U.S. Senate.

DEAR MR. CHAIRMAN: This is in response to your requests for reports on S. 237, a bill "To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes"; and S. 1752, a bill "To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes."

The Department of Agriculture recommends that S. 237 and S. 1752 not be enacted.

S. 237 would provide for an annual Resources, Conservation, and the Environment Report of the President, creation of a Council of Advisors to the President on Resources, Conservation and the Environment, and establishment of Select Committees of Congress on the Resources, Conservation, and the Environment Report. S. 1752 would authorize the Secretary of the Interior to conduct a broad ecological research program, establish a Council on Environmental Quality in the Executive Office of the President and establish a Joint Congressional Committee on Environmental Quality.

On April 15, 1969 we sent you a report on S. 1075, Title I of which is similar to Title I of S. 1752. These titles would authorize the Secretary of the Interior to conduct an ecological research program. In our report on S. 1075 we indicated that the broad scope of authorities the bill would provide the Secretary of the Interior would substantially overlap and duplicate the activities of a number of other agencies and Departments which conduct environmental programs. Our comments on Title I of S. 1075 are applicable to Title I of S. 1752. We believe that prior to establishment of new authority, a careful and comprehensive review of present activities, priorities, and capabilities of the agencies concerned is needed.

S. 237 and Title II of S. 1752 would create in the Executive Office of the President a Council of Advisors dealing with natural resources and the environment. The provisions are similar in purpose to Title II of S. 1075. As we indicated in our report on S. 1075, we support the objective of creating a Council on Environmental Quality. However, the President has announced his intention to establish an environmental quality council within the Executive Office of the President. Such a council, we believe, will be able to assist and advise the President on national policies in the field of the environment and conduct an assessment of current activities in this area.

Since the proposals for a Select or Joint Congressional Committee dealing with environmental quality are a matter for Congressional consideration, we have no comments on section 5 of S. 237 or on Title III of S. 1752.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

CLARENCE D. PALMBY,

Acting Secretary.

The CHAIRMAN. At this point in the hearing record I would also insert the statement from the Congressional Record of February 18 when I introduced this legislation.

(The statement referred to follows:)

[Congressional Record, Feb. 18, 1969]

S. 1075—INTRODUCTION OF BILL TO ESTABLISH A NATIONAL STRATEGY FOR THE MANAGEMENT OF HUMAN ENVIRONMENT

Mr. JACKSON. Mr. President, I am today introducing legislation which has as its purpose the establishment of a national strategy for the management of the human environment.

The purpose of this legislation is to lay the framework for a continuing program of research and study which will insure that present and future generations of Americans will be able to live in and enjoy an environment free of hazards to mental and physical well-being.

This measure, if enacted, would place a new emphasis on two aspects of Federal efforts in this critically important field:

First, title I of the proposed legislation authorizes the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems and environmental quality. It is critically essential that basic research in this neglected area be properly funded and immediately undertaken. The data and the knowledge necessary to an understanding of man's impact on the environment is needed before Government and private industry can make knowledgeable decisions about how their activities and decisions affect man-environment relationships.

The need for basic research may be seen in connection with the current controversies over the short- and long-term impact of chemicals and pesticides on both human and animal life. Another example is the need for research on the social and legal aspects of weather modification, so that appropriate controls over the use of this emerging technology may be developed.

A contemporary example which has aroused great public concern in recent weeks is the Santa Barbara oil spill. An editorial in the February 14, 1969, issue of the Washington Post stated in part:

"It is often man's crass indifference to the consequences of technological advance in exploiting nature which is leading to the despoiling of nature. That is to say, the gains from technology seem to run only one way—to profits rather than to preservation of a planet on which man can comfortably live."

The editorial went on to say:

"The time has come to turn around the thesis under which natural resources have long been regarded. Instead of deciding that we must exploit them because we are technically able to do so, we ought to postpone exploiting them until the need is great or our knowledge of what damage exploitation may do is substantially larger."

In my judgment, more must be done, and it must be done soon, if we are to develop the data and the knowledge necessary to an understanding of the impact of man and his intrusive technology upon an environment that is unceasingly subject to growing pressures.

Second, title II of the bill would establish in the Office of the President a Council on Environmental Quality to study and analyze environmental trends; the factors that affect these trends; and how they relate to the conservation, social, economic, and health goals of the Nation. The Council would also advise and assist the President on the formulation of national policies to foster and promote the improvement of environmental quality, and in the preparation of an annual report on the quality of the environment as required by section 203 of the bill.

It is my judgment that a more effective process of policy review on matters affecting our entire biological and physical resources can be achieved by establishing a forum in the Office of the President for the consideration of alternative solutions to all environmental problems.

Our present governmental institutions are not designed to deal in a comprehensive manner with problems involving the quality of our surroundings and man's relationship to the environment. The responsibilities and functions of government institutions as presently organized are extremely fractionated. We have, for example, separate agencies and separate policies on shipping, fisheries, mines, forests, and water resource development. At some point in our history we felt it was wise to organize Government around these concepts. This organization

reflects our early national goals of resources exploitation, economic development, and conquest.

Our national goals have, however, changed a great deal in recent years. Today Government organization does not reflect this change in objectives and the new demands which are being placed on the environment.

At present the Federal programs of significant concern to environmental management are scattered throughout 11 of the major executive departments and 16 independent agencies. The problems of coordination and control are obvious. In my judgment, it is clear that new approaches are required if we are to be successful in the management of our future environment. Better concepts and better institutions must be designed to supplement the programs and goals of existing agencies.

I introduced similar legislation during the second session of the last Congress on behalf of Senator Thomas Kuchel and myself. The text of the bill as introduced in the 90th Congress, together with other relevant materials, may be found at page S18808 of the December 15, 1967, Congressional Record. Further materials from various sources discussing the need for a national strategy on environmental management may be found at page S959 of the February 6, 1968, Congressional Record.

One of the major problems which any effort to undertake a meaningful study of environmental and natural resource administration faces is that the subject spans the jurisdiction of many of the major committees of the Congress. In an effort to begin the process of review without impinging upon the legitimate legislative and jurisdictional interests of any committee of the Congress, Congressman George Miller, chairman of the House Science and Astronautics Committee, and I served as cochairmen for the purpose of convening a unique and highly successful Joint House-Senate colloquium to discuss a national policy for the environment last July 17, 1968. The participants at the colloquium included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurence S. Rockefeller, Dean Don K. Price, of Harvard, and many concerned Members of the Congress. A varied group of scholars and Government officials also submitted statements and reports on the need for a national environmental policy and offered suggestions as to the content of such a policy.

The colloquium considered the broad policy implications of environmental legislation that had been introduced in the 90th Congress. More than 120 Members had introduced bills which were referred to 19 separate committees of both the House and Senate. Most of these measures dealt with individual resource management problems, environmental pollution, or the general decline in the quality of urban and rural living conditions. The colloquium was not, however, directed to a discussion of specific legislative proposals. In view of the widespread congressional interest in improving and maintaining the quality of the human environment, the colloquium was directed at the general question of the need for a national environmental policy.

A special report to the Senate Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use prior to the convening of the colloquium. This report was written by Prof. L. K. Caldwell, of Indiana University, with the assistance of Mr. William Van Ness, special counsel to the committee. Mr. President, because the report is now out of print and because it summarizes the requirements for policy effectiveness and the questions of implementing an effective program of environmental administration so well, I ask unanimous consent that selected portions of the report be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 1.)

Mr. JACKSON. Mr. President, following the colloquium, a congressional white paper was prepared by the Library of Congress Legislative Reference Service. This document, which was distributed to the Congress in October, summarized the key points raised in the dialog between Members of Congress and the colloquium participants. It also suggested a number of approaches that the Congress might follow in formulating a clear and forceful strategy of environmental management.

The colloquium disclosed that environmental management is one of the most difficult issues facing Congress and the administration today. This fact has long been recognized in academic and scientific circles. For example, last year the American Society for Public Administration devoted an entire issue of its journal, *Public Administration Review*, to the interaction of well-known environmental problems and the efficacy of existing Government programs to deal with conflicts

and controversies over the use of the environment. The editor of the issue, Prof. Lynton K. Caldwell, of Indiana University, called attention to the numerous statutes that have been enacted by Congress on behalf of air and water pollution, public health, urban planning, atmospheric research, oceanography, rural conservation, and related fields. Yet he emphasized that these measures "do not cumulate to give us basic political doctrine that would guide social conduct as it impinges upon the environment."

In recent months a number of major conferences sponsored by philanthropic foundations and universities, including the Industry and Environment Conference held at Williams College in October 1968, have pinpointed very serious gaps in our private and public research effort to understand the long-term social implications of the environmental changes being wrought by rapidly expanding technologies and their industrial applications.

The bill I am introducing today would authorize the Council of Environmental Advisers to periodically review all existing programs and activities carried out by Federal agencies, as well as the private sector, to document and anticipate imminent environmental alterations, and to make appropriate recommendations to the President. The Council would thus help the President evaluate the trends of new technologies and developments as they affect our total surroundings, and to develop broad policies, including those related to anticipatory research, to prevent future man-induced environmental changes which could have serious social and economic consequences.

The aim of this legislation is not to duplicate any existing research evaluation functions such as those carried out by the Office of Science and Technology. However, it is clear that scientific knowledge must be advanced and related to the public's interest in maintaining a quality environment and in establishing better man-environment relationships. The aim of my bill is to provide a continuing and thorough consideration of our Nation's overall progress in meeting national and international problems of environmental management which are critically important to the well-being of this country.

The need for an information gathering body such as the proposed Council in the Office of the President is clear. It is obvious that we must do more to anticipate environmental problems and develop strategies for their resolution before they assume crisis proportions. It is far cheaper—in human, social, and economic terms—to anticipate these problems at an early date and to find alternatives before they require the massive expenditures we are now obligated to make to control air and water pollution and to deal with recurring problems such as the recent Santa Barbara oil spill. The proposed Council could perform this function of problem anticipation, overview, and informal coordination.

It is noteworthy, Mr. President, that the present administration has been given recommendations along these lines. Early this year, the Brookings Institution issued a report, edited by Kermit Gordon, entitled "Agenda for the Nation" in which some of the Nation's leading observers of public affairs identify the major issues the executive branch must face in the months ahead. This report contains an essay by Prof. Stephen K. Bailey, dean of the Maxwell Graduate School of Public Affairs, Syracuse University, on the subject "Managing Our Federal Government." Professor Bailey described the need for restructuring the President's Office to reflect what many public administration experts consider the prime concerns of the Nation as viewed from the vantage point of the Chief Executive. These prime concerns are identified as first, national security; second, stability and growth; third, human resource development; and, fourth, environmental management and control.

In the first three areas cited, the President's Office has steadily strengthened its policy review capabilities by creating special councils and Presidential advisers. But as Professor Bailey noted, in the increasingly troublesome area of protecting the integrity and viability of our environment, the President's Office is patently deficient:

"Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency . . . charged with the study of emerging public problems and the development of effective programs to deal with them in terms of continuing and changing presidential perspectives of the public interest."

Professor Bailey went on to note:

"The presidency is the only institution in the American polity where over-arching and long-range public imperatives can be coherently analyzed and melded.

"The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive.

In the present age, as already noted, these prime concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses."

At present, the President does not have at his disposal institutional arrangements that can help him plan wisely, to sort options judiciously, and to effect coordinated responses in the field of environmental administration.

While Professor Bailey's essay does not directly endorse the councilor approach for Presidential policy review in the environmental field, as I am now proposing, I think his arguments for more satisfactory machinery than now exists to devise a national strategy of environmental management are particularly significant and should be studied by the Congress and all others who are interested in maintaining a quality environment for present and future generations. Mr. President, I ask unanimous consent that excerpts from his chapter on this subject be printed in the RECORD at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 2.)

Mr. JACKSON. Mr. President, I also ask unanimous consent that an article by Mr. Peter Khiss from the January 14, 1969, issue of the New York Times be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 3.)

Mr. JACKSON. Mr. President, the article discusses recommendations made to President Nixon by his Task Force on Resources and the Environment. It is reported that the task force recommend the naming of a Special Assistant for Environmental Affairs to the President and the establishment of a Presidential Council on the Environment. The new Council would, according to Mr. Khiss' article, represent a broadening of the membership and areas of responsibility of the present Council on Recreation and Natural Beauty. This report is for the President's confidential use, and it is not known whether the task force's recommendations will be followed. It is, however, my tentative view that the magnitude of the problems faced will require a more effective instrument than a revamped Council on Recreation and Natural Beauty.

Mr. President, the concept of man's total environment has emerged in the last few years as a new focus for public policy. Not long ago the ideal of a governmental responsibility for the health of the individual, for the state of the economy, for consumer protection and for housing was considered revolutionary. Today, we have come to take these responsibilities for granted. We must now proceed to make the concept of a governmental responsibility for the quality of our surroundings an accepted tenet of our political philosophy.

It is time that we reexamine our national goals and purposes in managing the environment. New goals and new policies which are in the long-range public interest are clearly required. Their successful development will require the active participation of the States and private enterprise as well as the Federal Government.

In the Federal Government—and I suppose this may also be true of State government—we have sometimes indulged ourselves in the illusion that we are doing a grand job of environmental management. But the facts do not support this. Many of our approaches and programs have involved merely a cosmetic approach—"clean-up, paint-up, and fix-up." The conditions we are dealing with, however, are not cured by cosmetology. Many will require major surgery.

Our responses have been too narrow, too limited, and too specialized. In the past, we have established costly programs without a clear enough perception of the objectives and the goals we seek to attain.

Mr. President, we have reached the point in our national life where this country can no longer rely on the timeworn method of simply convening ad hoc study groups and task forces to make recommendations which are easily filed away and forgotten every time there is a new environmental crisis such as the recent oil spill off Santa Barbara, Calif.

I believe that President Nixon was correct in directing Dr. DuBridge, the President's Science Adviser, to bring together a panel of scientists and engineers to review the oil pollution problem. What is of grave concern, however, is that we are still only reacting to crisis situations in the environmental field. What we should be doing is setting up institutions and procedures designed to anticipate environmental problems before they reach the crisis stage.

We need to know what the risks are, and we need to know what options and alternatives are available in the development of our resources and in the administration of our environment. It is far cheaper in human, social, and economic terms, to anticipate these problems at an early stage and to find alternatives before they require the massive expenditures we are now obligated to make to control air, water, and oil pollution.

It is my judgment that the bill I am introducing today will, if enacted, go a long way toward giving the Federal Government an environmental problem anticipatory capacity.

In conclusion Mr. President, I urge President Nixon to consider very carefully the establishment of a Council of Environmental Quality Advisers in the Executive Office of the President.

Mr. President, I ask unanimous consent that the text of the bill be printed at this point in the Record.

The VICE PRESIDENT. The bill will be received and appropriately referred; and without objection, the bill will be printed in the Record.

The bill (S. 1075) to authorize the Secretary of the Interior to conduct investigation, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, introduced by Mr. Jackson (for himself and Mr. Stevens), was received, read twice by its title, referred to the Committee on Interior and Insular Affairs, and ordered to be printed in the Record, as follows:

S. 1075

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the purpose of this Act to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources and the environmental forces affecting them and responsible for their development and future well being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research.

TITLE I

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to develop and maintain an inventory of existing and future natural resources development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(d) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals.

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environment Quality established under title II of this Act.

SEC. 102. In carrying out the provisions of this title, the Secretary is authorized to make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

SEC. 103. The Secretary shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 104. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

SEC. 105. Nothing in this Act is intended to give, or shall be construed as giving, the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purposes of identifying and eliminating any unnecessary duplication of effort.

SEC. 106. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

TITLE II

SEC. 201. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsible to the scientific, economic, social, aesthetic and cultural needs and interests of this Nation. The President shall designate the chairman and vice-chairman of the Council from such members.

SEC. 202. (a) The primary function of the Council shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Council shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice and assistance to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President.

(c) It shall be the duty and function of the Council and the Secretary of the Interior to assist and advise the President in the preparation of the biennial environment quality report required under section 203.

SEC. 203. The President shall transmit to the Congress annually beginning June 30, 1970, an environmental quality report which shall set forth (a) the status and condition of the major natural, man-made, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (b) current and foreseeable trends in quality, management,

and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 204. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 205. There are hereby authorized to be appropriated such sums as are necessary to carry out the purposes of this title.

EXHIBIT 1

A NATIONAL POLICY FOR THE ENVIRONMENT—A REPORT ON THE NEED FOR A NATIONAL POLICY FOR THE ENVIRONMENT: AN EXPLANATION OF ITS PURPOSE AND CONTENT; AN EXPLORATION OF MEANS TO MAKE IT EFFECTIVE; AND A LISTING OF QUESTIONS IMPLICIT IN ITS ESTABLISHMENT

(A special report to the Committee on Interior and Insular Affairs, U.S. Senate, by Lynton K. Caldwell, together with a statement by Senator Henry M. Jackson)

STATEMENT BY SENATOR HENRY M. JACKSON

Over the years, in small but steady and growing increments, we in America have been making very important decisions concerning the management of our environment. Unfortunately, these haven't always been very wise decisions. Throughout much of our history, the goal of managing the environment for the benefit of all citizens has often been overshadowed and obscured by the pursuit of narrower and more immediate economic goals.

It is only in the past few years that the dangers of this form of muddling through events and establishing policy by inaction and default have been very widely perceived. Today, with the benefit of hindsight, it is easy to see that in America we have too often reacted only to crisis situations. We always seem to be calculating the short-term consequences of environmental mismanagement, but seldom the long-term consequences or the alternatives open to future action.

This report proposes that the American people, the Congress, and the Administration break the shackles of incremental policymaking in the management of the environment. It discusses the need for a national environmental policy and states what some of the major elements of such a policy might be. It also raises a number of questions implicit in the establishment of such a broad-based and far-reaching policy.

The report does not purport to deal exhaustively with these subjects. Rather, it attempts to place some of the fundamental questions concerning the needs for and the elements of a national environmental policy in the arena of public debate. If the report is successful in encouraging discussion and in refining some of the issues involved, it will have performed a worthwhile purpose. In the last few years, it has become increasingly clear that, soon, some President and some Congress must face the inevitable task of deciding whether or not the objective of a quality environment for all Americans is a top-priority national goal which takes precedence over a number of other, often competing, objectives in natural resource management and the use of the environment. In my judgment, that inevitable time of decision is close upon us.

If we are to make the intelligent decisions which are not based on the emotion of conservation's cause célèbre of the moment or on the error of simply perpetuating past practices, there is a very real need to develop a national capacity for constructive criticism of present policies and the development of new institutions and alternatives in the management of the environmental resources of land, air, water, and living space. Developing this capacity will require that representatives from all elements of our national life—industry, the university, Federal, State, and local government—participate in forming this policy. It will require the creative utilization of technology to improve environmental conditions and to prevent unanticipated future instances of costly abuse. It will also require that government business, and industry pay closer attention to a far greater range of alternatives and potential consequences when they make environment-affecting decisions than they have in the past.

Finally, it needs to be recognized that the declaration of a national environmental policy will not alone necessarily better or enhance the total man-environment relationship. The present problem is not simply the lack of a policy. It also involves the need to rationalize and coordinate existing policies and to provide a means by which they may be continuously reviewed to determine whether they meet the national goal of a quality life in a quality environment for all Americans. Declaration of a national environmental policy could, however, provide a new organizing concept by which governmental functions could be weighed and evaluated in the light of better perceived and better understood national needs and goals.

This report was prepared for the use of the the Senate Interior Committee by Prof. Lynton K. Caldwell, Department of Government, Indiana University, with the assistance of Mr. William J. Van Ness, special counsel to the committee, and the Natural Resources Division, Legislative Reference Service, Library of Congress. Professor Caldwell's contribution was, in part, made possible through an arrangement with the Conservation Foundation.

"Scientists from this country and the Soviet Union—and from 50 other countries—have already begun an international biological program to enrich our understanding of man and his environment.

"I propose that we make this effort a permanent concern of our nations. I propose that the United States scientists join with the scientists of the Soviet Union and other nations to form an international council on the human environment."—*From President Lyndon B. Johnson's Commencement Address at Glassboro State College, Glassboro, N.J., June 4, 1968.*

PREAMBLE

It is a major function of the Congress to propose and consider policies "to provide for the common defense and the general welfare of the United States." Today, a challenge to the safety and welfare of the United States and of the American people has arisen. The challenge is the rapid deterioration of the environmental base, natural and manmade, which is the indispensable foundation of American security, welfare, and prosperity. Congress has recognized this challenge, and in accord with its responsibilities is preparing a response. Numerous proposals are now before the Congress to deal with what some of our best informed scientists and political leaders describe as an "environmental crisis." The purpose of this report is not to "view with alarm," but to raise the issue of whether there is a need for a national environmental policy and to discuss some of the major elements which might be considered for inclusion in such a policy. This report is intended to bring the issue of environmental policy into as sharp a focus as the complexity of its subject matter permits, and to identify some of the basic questions that would be encountered in shaping a national policy.

The threat of environmental deterioration, which the President of the United States has described as "a crisis of choice," is largely the result of the unprecedented impact of a dual explosion of population and technology upon limited resources of air, water, land, and living space. This challenge has not occurred before in American history nor in the history of civilization. Today the threat this challenge presents is widely recognized. Calls for action have come from many sectors of American society: from labor, from business, from agriculture, from science, from civic bodies, from religious, cultural and ethnic groups, from public agencies and from the elected representatives of the people. Symbolizing the national concern, the Department of the Interior entitled its 1968 Conservation Yearbook "Man—An Endangered Species?"; and the Chamber of Commerce of the United States has issued a call for action in a pamphlet bearing the headline "The Need: To Manage Our Environment." These publications, together with many others listed in appendix A, document the evidence and provide an outstanding listing of the dangers and costs of environmental deterioration. When these dangers and costs are understood, the need for a continuing effort to refine and establish a countervailing policy is apparent.

Therefore, the issue before the American people and their elected representatives is the kind of policy that will meet the need. To be effective, a national policy for the environment must be compatible and consistent with many other needs to which the Nation must respond. But it must also define the intent of the American people toward the management of their environment in terms that the Congress, the President, the administrative agencies and the electorate can consider and act upon. A national policy for the environment—like other major

policy declarations—must be concerned with principle rather than with detail; but it must be principle which can be applied in action. The goals of effective environmental policy cannot be counsels of perfection; what the Nation requires are guidelines to assist the Government, private enterprise and the individual citizen to plan together and to work together toward meeting the challenge of a better environment. At the risk of some oversimplification, the task may be summarized in these terms:

- (1) To arrest the deterioration of the environment.
- (2) To restore and revitalize damaged areas of our Nation so that they may once again be productive of economic wealth and spiritual satisfaction.
- (3) To find alternatives and procedures which will minimize and prevent future hazards in the use of environment-shaping technologies, old and new.
- (4) To provide direction and, if necessary, new institutions and new technologies designed to optimize man-environment relationships and to minimize future costs in the management of the environment.

The challenge of environmental management is, in essence, a challenge of modern man to himself. The principal threats to the environment are those that man himself has induced. A national policy for the environment is thus above all else a national policy for the welfare and survival of man. It is one more step in the journey of the American people from political independence toward knowledgeable self-determination in its most fundamental and democratic sense.

A NATIONAL POLICY FOR THE ENVIRONMENT

Introduction

This report is based upon the assumption that the threat of environmental mismanagement and deterioration to the security and welfare of the United States has been established. (See app. A.) There are differences of opinion as to the security and relative urgency of various hazards to the environment. Some scientists believe that man's environmental relationships have reached a point of crisis; others do not see the condition of the environment generally as having yet reached a critical stage. But there is, nevertheless, general consensus throughout most walks of life that a serious state of affairs exists and that, at the least, it is approaching a crisis of national and international proportions. The focus of this report is therefore on national policy to cope with environmental crisis, present or impending, rather than with documenting the facts relating to environmental deterioration.

Part I. Requirements for policy effectiveness

Effective policy is not merely a statement of things hoped for. It is a coherent, reasoned statement of goals and principles supported by evidence and formulated in language that enables those responsible for implementation to fulfill its intent. This section of the report describes some of the interrelating conditions that appear necessary to an effective national policy for the environment. The discussion will be developed under the following five headings:

- (1) Understanding Imminent Need.
- (2) Recognizing Costs.
- (3) Marshaling Relevant Knowledge.
- (4) Facilitating Policy Choice.
- (5) National Policy and International Cooperation.

1. Understanding Imminent Need

An effective and enlightened environmental policy is a response to the needs of man in relation to his environment. The response may involve the control of man's behavior on behalf of the larger interests of mankind where those interests are clearly perceived and widely held. Man's relationships with his environment are, of course, multitudinous and complex. Control by governments, by international organizations, or by other institutions, cannot feasibly be extended to every aspect of the environment nor to more than a fraction of the actual points of impact of individual man upon his environment. Policy effectiveness consequently depends very largely upon the internationalization, in the human individual, of those understandings, values, and attitudes that will guide his conduct in relation to his environment along generally beneficial lines. A major requisite of effective environmental policy is therefore intelligent and informed individual self-control.

There is substantial evidence to indicate that large numbers of Americans perceive the need for halting the spread of environmental decay. It is also evident, however, that few recognize the connection between the conditions which they deplore and the absence of any explicit and coherent national policy on behalf of environmental quality.

Man is confronted by a circumstance that is totally new in human history. He has rapidly completed the occupancy of the easily inhabitable areas of the earth while his numbers have increased at an exponential and accelerating rate. Simultaneously, unprecedented economic power and advances in science and technology have permitted man to make enormously increased demands upon his environment. In no nation are these coincidental developments more dramatically evident than in the United States. And yet many Americans find it difficult to understand why sound environmental management should now suddenly become "everybody's business." Long-accepted ways of thinking and acting in relation to one's surroundings are now being called into question. Understanding of what has happened can be helped by a simple exercise in arithmetic.

At the time of the American Revolution the total human population of the present-day continental United States could hardly have exceeded 3 million individuals. The demands of the American Indian and European colonists on the Atlantic seaboard were very light when contrasted with current exactions. By the close of the 20th century, if the population of this same area approximates 300 million, the daily stress man places on the environment will, on the basis of mere numbers, have increased 100 times over. Technology has alleviated some forms of stress (as on forests for fuel or on wildlife for food), but it has greatly increased environmental stress in general. The net result has been enormously increased demands upon the environment in addition to the increase in population. Calculation of an average per man-year stress upon the environment, estimated from A.D. 1700 to 2000, and adjusted for technological factors at particular historical periods, would be a powerful persuader of the need for a sensitive and forward-looking national environmental policy. The exponential increase in the pressure of man and his technology upon the environment, particularly since World War II, is the major cause of the need for a national environmental quality effort.

The rate at which the Nation has changed since 1890 when the frontier officially ceased to exist has been unexceeded by any other social transformation in history. Scarcely one long generation removed from the last days of the frontier, America has become an urbanized and automated society with publicly institutionalized values in social security, labor relations, civil rights, public education, and public health that would have been utopian less than a century ago. In the absence of a system for adequately assessing the consequences of technological change, who could have predicted the many ways in which applied science would transform the conditions of American life? Powerful new tools applying the discoveries in chemistry, physics, biology, and the behavioral sciences were put to work for improving the health, wealth, comfort, convenience, and security of Americans. Utilizing the vast natural resources of the American environment, the world's highest standard of living was achieved in an amazingly short period of time. Unfortunately, our productive technology has been accompanied by side effects which we did not foresee. Experience has shown us that there are dangers as well as benefits in our science-based technology. It is now becoming apparent that we cannot continue to enjoy the benefits of our productive economy unless we bring its harmful side effects under control. To obtain this control and to protect our investment in all that we have accomplished, a national policy for the environment is needed.

Although Americans have enjoyed prodigious success in the management of their economy they have been much less successful in the management of natural resources. As a people we have been overly optimistic, careless, and at times callous in our exactions from the natural environment. The history of soil exhaustion and erosion, of cut-over forest lands, of slaughtered wildlife document a few of our early failures to maintain the restorative capacities of our natural resources. Fortunately many of these early failures have been corrected or are now being remedied. But our exploding population and technology have created more subtle dangers, less easily detected and more difficult to overcome.

These more recent dangers have been documented in testimony before the Congress and in the reports of scientific committees (app. A). They confront us with the possibility that the continuation of present trends affecting, for example, (a) the chemistry of the air, (b) the contamination of food and water,

(c) the use of open land and living space, and (d) the psychophysical stress of crowding, noise and interpersonal tension on urban populations, may infinitely degrade the existence of civilized man before the end of this century. These are not the exaggerated alarms or unsubstantiated predictions of extremists: they are sober warnings of competent scientists supported by substantial demonstrable evidence. The practical course is, therefore, to forestall these threats before they have outgrown our technical, economic, legal, and political means to overcome them. Fortunately, we still have a choice in this matter. We still have a relatively wide range of alternatives available in managing the environment.

It may be contended that the problems of the environment must wait until more urgent political issues are resolved. Problems of national security, poverty, health, education, urban decay, and underdeveloped nations have just and appropriate claims for priority in national attention and public expenditures. Yet many aspects of these problems involve environmental policy. Three of the most urgent—the slums and ghettos of the great cities: increasing disability and death from diseases induced by environmental factors (for example, cancer, emphysema, mental disorders); and the decline and decay of rural areas (for example, in Appalachia) furnish persuasive reasons for a national environmental policy. Before billions of dollars are spent in attempts to alleviate these social ills, it would be wise to be sure that the environmental factors causing or accompanying these conditions are properly identified and remedied. We may otherwise worsen the state of our economy and environment without solving the underlying social problems.

In summary, within the present generation the pressures of man and technology have exploded into the environment with unprecedented speed and unforeseen destructiveness. Preoccupied with the benefits of an expanding economy the American people have not readily adopted policies to cope with the attendant liabilities. Popular understanding of the need to forestall the liabilities in order to preserve the benefits is now becoming widespread. And provides the political rationale for the development of a national policy for the environment, and for a level of funding adequate to implement it.

2. Recognizing Costs

The nation long ago would probably have adopted a coherent policy for the management of its environment, had its people recognized that the costs of over-stressing or misusing the environment were ultimately unavoidable. This recognition was arrived at belatedly for several reasons: *First*, environmental deterioration in the past tended to be gradual and accumulative, so that it was not apparent that any cost or penalty was being exacted; *second*, it seemed possible to defer or to evade payment either in money or in obvious loss of environmental assets; *third*, the right to pollute or degrade the environment (unless specific illegal damage could be proved) was widely accepted. Exaggerated doctrines of private ownership and an uncritical popular tolerance of the side effects of economic production encouraged the belief that costs projected onto the environment were costs that no one had to pay.

This optimistic philosophy proved false as many regions of the Nation began to run out of unpolluted air and water, as the devastation of strip mining impoverished mining communities, as the refuse of the machine age piled up in man-made mountains of junk, as the demand for electricity and telecommunications arose to festoon the nation with skeins of cables strung from forests of poles, and as the tools of technology increasingly produced results incompatible with human well-being. Under the traditional "ground rules" of production, neither enterprise nor citizen was called upon to find alternatives or to pay for measures that would have prevented or lessened ensuing loss of environmental quality. Payment continued to be exacted in the loss of amenities the public once enjoyed, and in the costs required to restore resources to usefulness and to support the public administration that environmental deterioration entailed. When the public began to demand legislation to control pollution and to prevent environmental decay, the reaction of those involved in environmental degrading activities was often one of counter-indignation. Businessmen, municipalities, corporations and property owners were confronted with costs in the form of taxes or the abatement of nuisances that they had never before been called upon to pay. They were now about to be penalized for behavior which America had long accepted as normal.

What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment. The policy question is not whether payment shall be made: it is when payment shall be made, in what form, and how the costs are to be distributed. Hard necessity has made evident the need for payment

to obtain air and water of quality adequate to meet at least minimum standards of health and comfort. Scientific knowledge and the rising levels of amenity standards have added to public expectation that protection against environmental damage will be built into the products and production costs of manufacturers.

Lack of a national policy for the environment has now become as expensive to the business community as to the Nation at large. In most enterprises a social cost can be carried without undue burden if all competitors carry it alike. For example, industrial waste disposal costs can, like other costs of production, be reflected in prices to consumers. But this becomes feasible only when public law and administration put all comparable forms of waste-producing enterprises under the same requirements. Moreover it has always been an advantage to enterprise to have as clear a view as possible of future costs and requirements. When public expectations and "ground rules" change, however, as they have been changing recently on environmental quality issues, the uncertainty of resulting effects upon business costs, and the necessity for adjustment to unexpected expenses and regulations, is disconcerting and hardly helpful.

A national policy for the environment could provide the conceptual basis and legal sanction for applying to environmental management the methods of systems analysis and cost accounting that have demonstrated their value in industry and in some areas of government. It has been poor business, indeed, to be faced with the billions of dollars in expenses for salvaging our lakes and waterways when timely expenditures of millions or timely establishment of appropriate policies would have largely preserved the amenities that we have lost and would have made unnecessary the cost of attempted restoration. A national system of environmental cost accounting expressed not only in economic terms but also reflecting life-sustaining and amenity values in the form of environmental quality indicators could provide the Nation with a much clearer picture than it now has of its environmental condition. It would help all sectors of American society to cooperate in avoiding the overdrafts on the environment and the threat of ecological insolvency that are impairing the national economy today.

It is not only industrial managers and public officials who need to recognize the unavoidable costs of using the environment. It is, above all, the individual citizen because he must ultimately pay in money or in amenities for the way in which the environment is used. If, for example, he likes to eat lobster, shrimp or shellfish, the citizen must reconcile himself to either paying dearly for these products or indeed finding them unobtainable at any price, unless we find ways to preserve America's coastline and coastal waters. The individual citizen may also have to pay in the cost of illness and in general physical and psychological discomfort. And these costs, of course, are not incurred voluntarily.

In the interest of his welfare and of his effectiveness as a citizen the individual American needs to understand that environmental quality can no longer be had "for free." Recognition of the inevitability of costs for using the environment and of the forms which these costs may take is essential to knowledgeable and responsible citizenship on environmental policy issues.

In summary, the American people have reached a point in history where they can no longer pass on to nature the costs of using the environment. The deferral of charges by letting them accumulate in slow attrition of the environment, or by debiting them as loss of amenities will soon be no longer possible. It is no longer feasible for the American people to permit it. The environmental impact of our powerful, new, and imperfectly understood technology has often been unbelievably swift and pervasive. Specific effects may prove to be irreversible. To enjoy the benefits of technological advance, the price of preventing accidents and errors must be paid on time. From now on "pay-as-you-go" will increasingly be required for insuring against the risks of manipulating nature. This means merely that provision must be made for the protection, restoration, replacement, or rehabilitation of elements in the environment before, or at the time, these resources are used. Later may be too late.

3. Marshaling Relevant Knowledge

For many years scientists have been warning against the ultimate consequences of quiet, creeping, environmental decline. Now the decline is no longer quiet and its speed is accelerating. The degradation is destroying the works of man as well as of nature. We are confronted simultaneously with environmental crisis in our cities and across our open lands and waters. The crisis of the cities and the crisis of the natural and rural environments have many

roots in common, although they may erroneously be viewed as extraneous to one another, or even as competitive for public attention and taxation. In fact, both crises stem from an ignorance of and a disregard for man's relationship to his environment.

An effective environmental policy in the past might have prevented and would certainly have focused attention upon the wretched condition of urban and rural slums. It would surely have stimulated a search for knowledge that could have helped to correct and prevent degraded conditions of living. It is now evident that the fabric of American society can no longer contain the growing social pressure against slum environments. Today, remedial measures are being forced by social violence and by the social and economic costs of environmental decay; but it is not certain that the remedies take full account of the nature of the ailment. The pressure upon the urban environment is acute and overt; it is dramatized, it has obvious political implications, and it hurts. Conversely, the degradation of natural and rural environments is more subtle. Stress may reach the point of irreparable damage before there is full awareness that a danger exists. What is needed therefore is a systematic and verifiable method for periodically assessing the state of the environment and the degree and effect of man's stress upon it, as well as the effect of the environment and environmental change on man.

One would expect to be able to look to the universities and to the great schools and institutes of agriculture, engineering, and public health as constituting an environmental intelligence system. Unfortunately, however, no such system exists. Man-environment relationships per se have seldom been studied comprehensively. Various disciplines have concerned themselves with particular aspects of environmental relationships. Geographers, physiologists, epidemiologists, evolutionists, ecologists, social and behavioral scientists, historians, and many others have in various ways contributed to our knowledge of the reciprocal influences of man and environment. But the knowledge that exists has not been marshaled in ways that are readily applicable to the formulation of a national policy for the environment. At present, there are many gaps in our knowledge of the environment to which no discipline has directed adequate attention.

It should not be surprising that there is a lack of organized knowledge relating to environmental relationships. Society has never asked for this knowledge, and has neither significantly encouraged nor paid for its production. By way of contract, public opinion has supported the costs of high-energy physics as reasonable, even though direct and immediate applications to public problems are relatively few. But public opinion has been guided in part by the judgment of the scientific community and of the leaders of higher education. Only recently have the scientific community and the universities begun to interest themselves institutionally in man-environment relationships, perceived in the totality in which they occur in real life.

Environmental studies in the universities are as yet largely focused on separate phases of man-environment relationships. This, in itself, is not undesirable; it is in fact necessary to obtain the degree of specialization and intensive study that many environmental problems require. The inadequacy lies in the lack of means to bring together existing specialized knowledge that would be relevant to the establishment of sound policies for the environment. There is also need for greatly increased attention to the study of natural systems, to the behavior of organisms in relation to environmental change, and to the complex and relatively new science of ecology. There is need for synthesis as well as for analysis in the study of man-environment.

A reciprocal relationship exists between the interests of public life and the activities of American universities. Public concern with a social problem when expressed in terms of public recognition or financial support, stimulates related research and teaching in the colleges and universities. Research findings and teaching influence the actions of government and the behavior of society. This relationship has been exceptionally fruitful in such fields as agriculture, medicine, and engineering. It has not, as yet, developed strength in the field of environmental policy and management. Nevertheless a beginning is being made in some colleges and universities, and in a number of independent research organizations and foundations, to provide a more adequate informational base for environmental policy.

Recognition of the need for a more adequate informational base for environmental policy has not been confined to academic institutions or to government. Speaking to the 1967 plenary session of the American Institute of Biological Sciences, Douglas L. Brooks, president of the Traveler's Research Center, declared

that " * * * We need to recognize environmental quality control as a vital social objective and take steps to establish the field of environmental management as a new cross-disciplinary applied science professional activity of extraordinary challenge and importance."

To date, action by Government to assist the marshaling of relevant knowledge has been uncoordinated and inconstant. With the exception of defense and space-related technical investigations, the amount of money made available for environmental research has been relatively meager and has been allocated largely along conventional disciplinary lines. Specialized aspects of research on man-environment relationships have been well funded by the Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration. But much of this work is highly technical and is appropriately directed toward problems encountered in the missions of these agencies. More broadly based are the interests of the National Science Foundation, but the Foundation's resources for funding academic research relating to environmental policy are small. For a brief period the most promising source of support for the kind of knowledge needed for environmental policy effectiveness was the U.S. Public Health Service. In the mid-1960's, the Service began to assist the establishment of broadly based environmental health science centers in selected universities. But a shift of emphasis in the Public Health Service brought this effort to an untimely standstill. The National Institutes of Health Fund a significant body of health-related environmental research, but little of it appears to be policy-related.

The Science Information Exchange of the Smithsonian Institution, surveying the general field of Government-funded research for the Senate Interior and Insular Affairs Committee, found (not unexpectedly) that there were heavy concentrations of research where Government funding was heaviest—notably in physical science and the biomedical aspects of the environment. Government-funded research of broadly cross-disciplinary or policy-oriented character appeared to be almost negligible in volume and in funding. It is probable that policy problems are investigated in the course of substantive research; but it is evident that we have not yet made a conscious decision to organize and fund the effort which students of environmental policy and management see as the necessary first step to an adequate environmental information system.

To provide facilities and financial support for new research on natural systems, environmental relationships and ecology on an independent, but publicly financed basis, a National Institute of Ecology has been proposed by a group of scientists associated with the Ecological Society of America and assisted by the National Science Foundation. The functions proposed for this institute are worth restating in brief, as indicative of the contribution that ecologists would like to make toward strengthening the Nation's capacity to cope with its environmental problems. Defining ecology to be " * * * the scientific study of life-in-environment," the proponents of a National Institute of Ecology state that it is needed (1) to conduct large-scale multi-disciplinary field research beyond the capacities of individual researchers or research institutions, (2) to provide a central ecological data bank on which ecologists and public agencies can draw, (3) to coordinate and strengthen activities of ecologists in relation to ecological issues in public affairs, and to promote the infusion of ecology into general education at all levels, and (4) to perform advisory services for government and industry on action programs affecting the environment. The principal purpose of the proposed institute is not, however, to study public policy or education, but to do more and better ecology.

These efforts and proposals, and many others unreported here, are constructive contributions to the task of marshaling the knowledge needed for an effective national policy for the environment. They do not, however, add up to a national information system, nor do they necessarily present information and findings relative to the environment in forms suitable for review and decision by the Nation's policymakers. The ecological research and surveys bill introduced by Senator Gaylord Nelson in the 89th Congress would have established a national research and information system under the direction of the Secretary of the Interior. Similar proposals have been incorporated in a number of bills introduced in the 90th Congress, including S. 2805 by Senators Jackson and Kuchel. (See app. B.) An important difference between the proposals before the 90th Congress and the efforts and proposals described in the preceding paragraphs is that in pending legislation the knowledge assembled through survey and research would be systematically related to official reporting, appraisal, and review. The need for more knowledge has been established beyond doubt. But of

equal and perhaps greater importance at this time is the establishment of a system to insure that existing knowledge and new findings will be organized in a manner suitable for review and decision as matters of public policy.

In summary, to make policy effective through action, a comprehensive system is required for the assembly and reporting of relevant knowledge; and for placing before the President, the Congress, and the people, for public decision, the alternative courses of action that this knowledge suggests. With all its great resources for research, data processing, and information transmittal, the United States has yet to provide the financial support and operational structure that would permit these resources to implement a public policy for the environment.

4. Facilitating Policy Choice

The problem of organizing information for purposes of policy-oriented review leads directly to the need for a strategy of policy choice. Environmental policymaking presents certain organizational difficulties. It must draw heavily upon scientific information and yet it embraces important considerations and issues that are extraneous to science policy. Insofar as environmental policy is dependent upon scientific information, it is handicapped by the insufficiency of the research effort and the inadequacies of information handling described in the preceding paragraphs. In a review of U.S. science policy of the Organization for Economic Cooperation and Development, the European examiners cited environmental problems as one of the areas of inquiry that American science was not well organized to attack. The criticism was directed not at the accomplishments of American science in support of major technical undertakings; it was instead concerned with the absence of a system and a strategy adequate to deal with the problems of the environment, and of social relationships and behavior, on a scale which their comprehensive and complex subject matters require.

Insofar as science is an element in environmental policymaking, the Office of Science and Technology affords a mechanism for enlisting the resources of the scientific community, for establishing study groups and advisory panels on specific issues, and for presenting their recommendations to the President. In the coordination of scientific aspects of environmental policy, the Federal Council of Science and Technology, in association with the Office of Science and Technology, is the more general of several coordinative or advisory bodies in the executive branch. (See app. C.) The establishment of special councils for marine resources and engineering development, for water resources, for recreation and natural beauty, among other purposes, complicates to some extent the function of policy advice. None of these bodies are constituted to look at man-environment relations as a whole; none provide an overview; none appear fully to answer the need for a system to enable the President, the Congress, and the electorate to consider alternative solutions to environmental problems.

Possible answers to the need for a system to assist national policy choice may be found in legislative proposals to create councils on environmental quality or councils of ecological advisers. These councils are conceived as bridges between the functions of environmental surveillance, research, and analysis, on the one hand, and the policymaking functions of the President and the Congress on the other. The particular and indispensable contribution of the Council to environmental policy would be twofold. The first would be, using S. 2805 for purposes of illustration, " * * * to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation." Most proposals call for a report on the state of the environment from the Council to the President and from the President to the Congress. S. 2805, for example, states that the Council shall provide advice and assistance to the President in the formulation of national policies, and that it shall also make information available to the public. The bill further provides that " * * * The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President."

From this enumeration of the Council's functions several inferences may be drawn. *First*, the proposed environmental advisory councils are not science advisory bodies. They are instructed in pending legislative proposals to take specified factors, including the scientific, into account in the course of their analysis and recommendations on environmental policy issues. *Second*, the councils are not primarily research or investigating bodies even though they have important investigatory functions. They are essentially policy-facilitating bodies. *Third*,

their functions are those of analysis, review, and reporting. Their nearest functional counterpart is probably the Council of Economic Advisers. *Fourth* and finally, councils on the environment, such as proposed by some of the measures listed in appendix B, must be located at the highest political levels if their advisory and coordinative roles are to be played effectively. For this reason the proposals have generally established the Council in the Executive Office of the President. However, the Technology Assessment Board proposed by Representative Emilio Q. Daddario, which would perform many functions similar to those of the environmental councils, would be an independent body responsible primarily to the Congress.

This brings the discussion to the role of the Congress in facilitating policy choice. Some have found the formal committee structure of the Congress to be poorly suited to the consideration of environmental policy questions. Senator Edmund Muskie has proposed a Select Committee of the Senate on Technology and the Human Environment to facilitate consideration of related environmental issues that would normally be divided among a number of Senate committees. Others have proposed that a Joint Committee on the Environment, representative of the principal committees of the House and the Senate concerned with environmental policy issues, should be established to review a proposed annual or biennial report of the President on the state of the environment. Many Congressmen, however, feel that the policy of establishing new committees to deal with each new problem area should be resisted and that the present committees should assume their legislative and oversight responsibilities in this area. Meanwhile the informal and practical operations of legislative business permits the present standing committees to function with remarkable speed and dexterity where the will to legislate exists.

In summary, policy effectiveness on environmental issues will require some form of high-level agency in the executive branch for reviewing and reporting on the state of the environment. No existing body seems appropriate for this function. To meet this need, and under various names, a council for the environment has been suggested and has been incorporated in numerous legislative proposals. Provision for a policy assisting body in the executive branch suggests to some the desirability of a comparable committee in the Congress.

5. National Policy and International Cooperation

In his address to the graduating class at Glassboro State College on June 4, 1968, President Lyndon B. Johnson called for the formation of a permanent "international council on the human environment." The ecological research and surveys bill first offered in 1965 by Senator Gaylord Nelson authorized participation by the United States with "other governments and international bodies in environmental research." Similarly, S. 2805 and other pending measures authorize " * * * environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations * * *."

These and other expressions of the willingness and intent of the United States to cooperate with other nations and with international organizations on matters of environmental research and policy reinforce the argument for a national environmental policy. Although the United States could cooperate internationally on many specific issues without a national policy, it could do so more effectively and comprehensively if its own general position on environmental policy were formally and publicly enunciated.

The United States, as the greatest user of natural resources and manipulator of nature in all history, has a large and obvious stake in the protection and wise management of man-environment relationships everywhere. Its international interests in the oceanic, polar, and outer space environments are clear. Effective international environmental control would, under most foreseeable contingencies, be in the interest of the United States, and could hardly be prejudicial to the legitimate interests of any nation. American interests and American leadership would, however, be greatly strengthened if the Nation's commitment to a sound environmental policy at home were clear.

Part II. Questions of implementation

What significance would adoption of a national policy for the environment hold for the future of government in the United States? At the least, it would signify a determination by the American people to assume responsibility for the future management of their environment. It would not imply an all-inclusive Federal or

even governmental environmental administration. The task to, too widespread, multitudinous, and diverse to be wholly performed by any single agency or instrumentality. There are important roles to be played at every level of government and in many sectors of the nongovernmental economy. Nevertheless a new policy, and particularly a major one, is certain to arouse some apprehensions.

In the Federal agencies, among the committees of the Congress, in State governments, and among businesses whose activities impinge directly upon the environment and natural resources, there would be understandable concern as to what changes for them might be implicit in a national policy for the environment. The objection is certain to be raised that Government is already too large and that there are already too many agencies trying to manage the environment. "Please—not one more," will be an oft-repeated plea. These fears, however, are largely those that always accompany a new public effort regardless of its purpose, direction, or ultimate benefit. Very few people oppose, in principle, public action on behalf of quality in the environment. It is implementation that raises questions and arouses apprehension.

It would be unconvincing to assert that no interest, enterprise, or activity will be adversely affected by a national environmental quality effort. There is no area of public policy that does not impose obligations upon, nor limit the latitude for action of important sectors of society. But while activities harmful to man's needs and enjoyments in the environment must necessarily be curbed, it is also true that all Americans, without exception, would benefit from an effective national environmental policy. In brief, although all would benefit, a relative few might be required to make adjustments in business procedures or in technological applications.

For the foregoing reasons, a report on the need for a national policy for the environment would be incomplete if it did not raise, at least for the purposes of discussion, some major questions that the establishment as such a policy would imply. These are mainly questions of how a decision to establish a national policy would be implemented in practice. They are questions to be answered by the Congress and by the President. But in their answers, the policy-determining branches of Government will need to consider a number of issues subsidiary to those major questions.

To better illustrate the issues involved in these questions, reference will be made to S. 2805. No claim of special priority is implied by these references. Many of the bills now pending on this issue have similar provisions. Any one bill might serve as well as any other.

1. What Are the Dimensions of an Environmental Policy and How Are They Distinguishable From Other Areas of National Concern?

This is the fundamental question. It would be unreasonable to expect that its metes and bounds could be defined more clearly than those of the more familiar policy areas of national defense, foreign relations, civil rights, public health, or employment security. The field of definition can be narrowed, however, by identifying those concepts with which it might be confused but from which it should be clearly distinguished.

Environmental policy, broadly construed, is concerned with the maintenance and management of those life-support systems—natural and manmade—upon which the health, happiness, economic welfare, and physical survival of human beings depend. (See app. D.) The quality of the environment, in the full and complex meaning of this term, is therefore the subject matter of environmental policy. The term embraces aspects of other areas of related policy or civic action, and it is important that environmental policy and environmental quality, in the broad sense, be distinguished from these related but sometimes dissimilar policies or movements.

Environmental policy should not be confused with efforts to preserve natural or historical aspects of the environment in a perpetually unaltered state. Environmental quality does not mean indiscriminate preservationism, but it does imply a careful examination of alternative means of meeting human needs before sacrificing natural species or environments to other competing demands.

Environmental quality is not identical with any of the several schools of natural resources conservation. A national environmental policy would however, necessarily be concerned with natural resource issues. But the total environmental needs of man—ethical, esthetic, physical, and intellectual, as well as economic—must also be taken into account.

Environmental policy is not merely the application of science and technology to problems of the environment. It includes a broader range of considerations. For this reason S. 2805, in proposing a Council on Environmental Quality, does

not stipulate that its five members be scientists, although it obviously would not preclude scientists among them.

One of the few differences in emphasis among the environmental policy bills now before the Congress has to do with the role of ecologists and of the science of ecology in the shaping of national policy. The need for a greatly expanded program of national assistance for ecological research and education cannot be doubted by anyone familiar with present trends in the environment. The science of ecology can provide many of the principal ingredients for the foundation of a national policy for the environment. But national policy for the environment involves more than applied ecology, it embraces more than any one science and more than science in the general sense.

The dimensions of environmental policy are broader than any but the most comprehensive of policy areas. The scope and complexities of environmental policy greatly exceed the range and character of issues considered, for example, by the Council of Economic Advisers. One may therefore conjecture, without derogation to the unquestionable importance of the economic advisory function, that a council on the environment would, in time, perhaps equal and even exceed in influence and importance any of the specialized councilar bodies now in existence. For this reason its membership should be broadly representative of the breadth and depth of national interests in man-environment relationships. The ultimate scope of environmental policy, and the relationship of a high-level implementing council to existing councils, commissions, and advisory agencies, are not questions that can be, or need to be, decided now, nor even at the time that a national policy may be adopted. The important consideration is to develop a policy and to provide a means that will permit its objectives to be considered and acted upon by the Congress, the President, and the executive agencies. If we wait until we are certain of the dimensions of environmental policy and of how it will relate to other responsibilities and functions of Government, our assurance will be of no practical value. It will have come too late to be of much help.

2. Upon What Considerations and Values Should a National Environmental Policy Be Based?

If it is ethical for man to value his chances for survival, to hope for a decent life for his descendants, to respect the value that other men place upon their lives, and to want to obtain the best that life has to offer without prejudicing equal opportunities for others, then the cornerstone of environmental policy is ethical. That cornerstone is the maintenance of an environment in which human life is not only possible, but may be lived with the fullest possible measures of personal freedom, health, and esthetic satisfaction that can be found. No government is able to guarantee that these values can be realized, but government is able to assist greatly in the maintenance of an environment where such values are at least realizable.

Ethics, like justice, is not easily quantifiable, yet few would argue that society should not seek to establish justice because justice cannot be adequately defined or quantified. Environmental policy is a point at which scientific, humanistic, political, and economic considerations must be weighed, evaluated, and hopefully reconciled. Hard choices are inherent in many policy issues. The sacrifice of a plant or animal species, for example, or of a unique ecosystem ought not to be permitted for reasons of short-run economy, convenience, or expediency. The philosophy of reverence for life would be an appropriate guiding ethic for a policy that must at times lead to a decision as to which of two forms of life must give way to a larger purpose.

The natural environment has been basically "friendly" toward man, Man's survival is dependent on the maintenance of this environment, but not upon the unaltered operation of all of its myriad components. Pathogenic micro-organisms, for example, are not revered by man. Protection against them is a major task of environmental health and medicine. But even here, respect for the incredible variety, resilience, and complexity of nature is a value that environmental policy would be wise to conserve. Frontal attacks upon man's environmental enemies or competitors, identified as pathogens or as "pests," have mis-carried too often to encourage the thought that direct action on threats in the environment are always wise, economical, or effective.

The range of values to be served by environmental policy is broad and an indication of how its scope might be defined may be obtained from the provisions of S. 2805 which specify the considerations to which the Council on Environmental Quality should respond: "Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and inter-

pret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social esthetic and cultural needs and interests of this Nation."

The assessment and interpretation of these needs and interests is obviously a function that the members of the Council would have to perform to the best of their ability. No more than in the election of legislators or in the appointment of judges, would it be possible to stipulate how these or other values should be understood and weighted. The reputations and characters of the individuals appointed to the Council would offer the best indication of how the specifications of the law might be construed. But the findings and conclusions of the Council need not be wholly subjective or based upon speculative data. The methods of systems analysis, cybernetics, telemetry, photogrammetry, electronic and satellite surveillance, and computer technology are now being applied to a wide range of environmental relationships. New statistical and computerized simulation techniques are rapidly bringing ecology from what has been described as "one of the most unsophisticated of the sciences," to what may become one of the most complex, intellectually demanding, and conceptually powerful of the sciences.

In brief, the values and considerations upon which a national environmental policy should be based should be no less extensive than the values and considerations that men seek to realize in the environment. In the interpretation of these values and considerations science can play a role of great importance. But neither science, nor any other field of knowledge or experience, can provide all of the criteria upon which environmental policies are based. The full range of knowledge and the contributions of all of the scientific and humanistic disciplines afford the informational background against which value judgments on environmental policy may most wisely be made.

3. How Should the Information Needed for a National Environmental Policy Be Obtained and Utilized?

Of all major questions on the implementation of environmental policy, this one is probably the least difficult. It is in part a technical question; yet to describe it as technical is not to suggest that it can be easily answered. There is no present system for bringing together, analyzing, collating, digesting, interpreting, and disseminating existing information on the environment. There is accordingly no reliable way of ascertaining what aspects of man-environment relationships are unresearched or hitherto unidentified. The question is less difficult than others primarily because it is clearly possible to design an information system, to fund its implementation, and to put it into effect. The particular form in which the data should finally appear, and the method of its subsequent disposition are more problematic.

Title I of S. 2805, and other measures proposed on behalf of a national environmental policy, make provision for the functions of information gathering, storage and retrieval, dissemination, and for enlarging the available information through assistance to research and training. The detailed provisions of S. 2805 on an environmental information system are numerous and need not be repeated here. The significant feature of these provisions is that they create an information system designed and intended to serve the policymaking processes of government.

Most of the environmental quality bills place this information function under the direction of the Secretary of the Interior. But they relate its data-gathering functions to those of other Federal agencies and they provide for the transmittal of its findings to a high-level reviewing body and to the President and the Congress. In the provision for organizing environmental information into a form that is usable for policy formation, this proposal represents a step toward greater rationality in government and toward the more effective use of modern information systems and technology to serve public purposes.

4. How Should a National Environmental Policy Be Implemented and Periodically Reviewed for Refinement or Revision?

Some innovation and restructuring of policy-forming institutions will be required to achieve the purposes of a national environmental policy. Our present governmental organization has not been designed to deal with environmental policy in any basic or coherent manner. (See app. C.) The extent to which governmental reorganization may be necessary cannot be determined absolutely in advance of experience. But it does seem probable that some new facility at the highest levels of policy formulation will be needed to provide a point at which environmental policy issues cutting across the jurisdictional lines of existing agencies can be identified and analyzed, and at which the complex prob-

blems involved in man's relationships with his environment can be reduced to questions and issues capable of being studied, debated, and acted upon by the President, the Congress, and the American people. As we have seen, some of the bills on environmental policy now pending in the Senate and the House of Representatives (see app. B) provide a point of focus for this new area of policy through a high-level board or council. Many of these bills provide for periodic reports on the state of the environment to the policy-determining institutions of the Nation—the President and the Congress—and, as these reports are matters of public record, to the American people who must be the final judges of the level of environmental quality they are willing to support.

As noted in the preceding paragraphs, improved facilities for the finding, analysis and presentation of pertinent factual data are needed. A vast amount of data is now collected by Federal agencies and by private research organizations; but this data is uneven in its coverage of the various aspects of environmental policy. For example, there is a superabundance of technical information on some aspects of environmental pollution but comparatively little research on the social and political aspects of environmental policy. Much of the data now available is in a form unsuitable for policy purposes. The sheer mass of data, much of it highly technical on certain major environmental problems, is a serious impediment to its use. For this reason the legislative proposals on national environmental policy provide a system for reinforcing, supplementing, and correlating the flow of information on the state of the environment.

These two major needs, (a) a high-level reviewing and reporting agency and (b) an information gathering and organizing system, are the essential structural innovations proposed in bills now before the Congress for implementing a national environmental policy. Would these additions to the present structure of government be sufficient to implement a national environmental quality program and how in particular would the proposed high-level Council be related to other agencies in the federal structure of government?

New policies and programs imply structures appropriate to their functions and may call for new relationships among existing agencies. To construct a comprehensive structure for environmental administration will require time and meanwhile the need for leadership in informing the people and in formulating policy recommendations and alternatives grows more urgent. It is for this reason that some of the measures which have been introduced propose that a Council for Environmental Quality be established in the Executive Office of the President. In effect, the Council would be acting as agent for the President. It would need information from the various Federal departments, commissions, and independent agencies that, under prevailing organization, it could not as easily obtain if it were located at a level coequal or subordinate to the divisions of Government whose programs it must review. Reinforcing this consideration is the distribution of environment-affecting activities among almost every Federal agency.

Objection may be raised that there are already too many councils and committees established in the Executive Office of the President. Some students of public administration argue that a simplification of structure and a clarification of existing responsibilities should take precedence over any new programs or agencies. The answer to this objection lies in an assessment of relative priorities. Is each of the councils or comparable agencies now established in the Executive Office of the President more important, of greater urgency, or of more direct bearing upon the public welfare, than the proposed Council on Environmental Quality? What criteria indicate how many conciliar bodies are "too many"? These questions are not merely rhetorical. Although they cannot be answered here, they are obviously germane to the issue of governmental organization and to the way in which national environmental policy is formulated and made effective.

A strong case can be made of a major restructuring of the Federal departments in which public responsibility for the quality of the environment would, like defense or foreign relations, become a major focus for public policy. Proposals tending in this direction and chiefly affecting the Department of the Interior have been made over several decades. A prominent news magazine took up this line of reasoning in a recent editorial declaring that " * * * the Secretary of the Interior ought to be the Secretary of the Environment." But a major restructuring of functions in the Federal administrative establishment cannot be accomplished easily or rapidly. Such a development would be most plausible as a part of a more general restructuring of the executive branch. The multiplication of high-level councils and interagency committees may indicate that a restructuring

is needed. (See app. C.) Some of the complexity of present arrangements for policy formulation and review reflects the confusion often attending a transition from one set of organizing concepts to another.

Among the concepts that have been proposed to reduce the burden of the Presidential office and to provide a more simple and flexible administrative structure, is that of the "superdepartment." One of these agencies already exists as the Department of Defense. A Department of the Environment might be another. The substance and character of the organizational changes that superdepartments might imply are germane to a discussion of environmental administration, but they require no further exploration in this report beyond the following three points: *First*, they would be fewer in number than present departments, probably no more than seven to nine; *second*, they would be oriented broadly to services performed for the entire population, and *third*, they would be planning and coordinative rather than directly operational, assuming, to some degree, certain of the tasks that now fall heavily on the Executive Office of the President.

There may be another answer to the need for a more effective review and coordination of related functions in diverse agencies in the concept of "horizontal authority" or matrix organization. This organizational arrangement has been employed in multifunctional, cross-bureau, projects in the Department of Defense and in the National Aeronautics and Space Administration. Under a temporary structure for project management, it structures across normal hierarchical lines and working relationships among the necessary personnel and skills. The concept might be applicable to interagency attack upon specific problems of environmental policy.

Review of national policy, and revision if and when needed, are functions that the Congress performs for all major policies of Government. The device of an annual or biennial report from the President to the Congress on the state of the environment offers the logical occasion for an examination by the Congress, not only of the substance of the President's message, but of national policy itself. In many respects, the transmission of an annual report on the state of the environment accompanied by a clear and concise statement of the Nation's goals, needs, and policies in managing the environment could attain many of the ends sought by those who propose reorganization.

SUMMATION

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelating aspects of man's dependence upon his environment. Through science, we now understand, far better than our forebears could, the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now costing us dearly, not merely in opportunities foregone, in impairment of health, and in discomfort and inconvenience, but in a demand upon tax dollars, upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deterioration will run. The cost of remedial action and of getting onto a sound basis for the future will never be less than it is today.

Natural beauty and urban esthetics would be important byproducts of an environmental quality program. They are worthy public objectives in their own right. But the compelling reasons for an environmental quality program are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life-sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaptation to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers and in one form or another must now pay directly the costs of obtaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of an environmental quality

program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner we may find ourselves confronted, even in this generation, with environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

EXHIBIT 2

MANAGING THE FEDERAL GOVERNMENT

(By Stephen K. Bailey, in "Agenda for the Nation," Brookings Institution, 1968, pp. 301-321)

The President of the United States faces a crisis of public confidence in the capacity of the federal government to manage itself and to carry out with efficiency, equity, and dispatch its own legislative mandates.

The seriousness of this issue can hardly be overstated. In question is the capacity of an eighteenth century constitutional arrangement of widely diffused and shared powers and a nineteenth century system of political pluralism to deal effectively with twentieth century problems of technological, social, and economic interdependencies—at home and abroad.

Unless the President devotes substantial attention to making the system work—an effort involving persistence and the employment of high political skills—the consequences for the future of the American policy could be serious in the extreme.

The programs and policies of the government of the United States are currently carried out by a diverse collection of political, administrative, and judicial systems. (The last of these is not treated in this paper.)

The descriptive and taxonomic problems alone are almost grotesque in their complexity. One may list and classify the obvious. The federal government of 1968 contains: three constitutional branches—legislative, executive, and judicial; an Executive Office of the President with a half dozen major constituent units and scores of minor councils and committees; four operating agencies exclusively responsible to the Congress, which itself is divided into two houses, forty standing committees, and more than two hundred subcommittees; twelve cabinet departments; fifty independent agencies, nine of which are independent regulatory commissions with both quasi-legislative and quasi-judicial authority; fifty-statutory interagency committees; 2.8 million civilian employees, 90 percent of whom are employed in federal field offices outside of the Washington, D.C., area; and 3 million military employees.

This gross breakdown suggests the magnitude and diversity of the enterprise, but it is only the tip of the iceberg. For federal policies are today carried out through a bewildering number of entities and instrumentalities: subdepartmental and subagency offices, branches, divisions, units—headquarters and field; hundreds of nonstatutory, but more or less permanent, intra-agency and interagency committees and commissions; grants-in-aid to fifty-five state and territorial governments and their hundreds of subdivisions, including tens of thousands of local governments, with more than 20,000 local school districts; a growing number of quasi-public, nonprofit corporations; scores of international and regional organizations; and myriad contracts to private industries, universities, professional groups, and charitable institutions.

Many of these subsidiary agents have their own separate identities, legal bases, and agenda of priorities apart from their instrumental (and often incidental) role in federal policy implementation.

This almost limitless diffusion presents internal problems of communication and control and often makes terms like "accountability" and "responsibility" words of art to cover a kaleidoscope of administrative fragmentation.

Even if the scene were not so cluttered, even if the formal structure of executive departments, agencies, and personnel were exclusively responsible for the implementation of federal policy, our constitutional system of shared powers and the pluralistic and oligarchical nature of political parties and interest groups would interfere with any neat model of hierarchical loyalty and public accountability. Elmer E. Schattschneider once commented that the history of the federal government could be written in terms of a struggle between the President and the Congress for control of the bureaucracy. But even this is too simple. for the struggle is not just between the President and the Congress: within the Congress,

committee and subcommittee chairmen, often allied with powerful private group interests, exercise extraordinary control over the policies and administrative arrangements of subdepartmental and subagency units of the bureaucracy.

If we lived in a simpler and less apocalyptic age, such a complex arrangement might be tolerated without fear of untoward disruptions to basic social values. But this is not the case. The American national government is confronted with unprecedented factors that place an absolute premium upon improved managerial competence in the public sector:

Government decisions involve increased stakes and risks, while mistakes are much harder to retrieve.

Science and technology have penetrated national security, environmental, and social strategies in a way that imposes acute moral and philosophical burdens upon public policy.

The dimensions of public spending require a modern President to monitor spending, taxing, and wage-price relationships with unprecedented precision, and to take stabilization actions without regard to the costs to his political credit balances; he is now obliged to be a conscientious student of economics.

"People" problems no longer lend themselves to straight-line solutions, and a President finds that he must work overtime to compensate for failures of administrative response and to teach a new administrative style to reluctant bureaucrats and congressmen.

Shortened decision intervals and reaction times drive a President to form his calculus of strategy on the run, as it were, placing a premium on accurate and adequate information systems and analytic support.

The modern President lives with a relentless social criticism that generates dissatisfactions with the quality of life and leadership and tends to force his timing and priorities.

In this kind of world, the President, by the logic of his position, must have two overriding managerial concerns:

How can the federal government identify, mobilize, train, and release the energy of the most impressive talent in the nation for developing and carrying out federal policy?

How can staff and line arrangements in the executive branch contribute to more rational and imaginative policy inputs to political decision making, and how can they contribute to more effective and coordinated policy implementation?

These two concerns must be specifically related to the modern President's inevitable preoccupations in the field of public policy: national security, economic stability and growth, environmental management and control, and human resource development.

Concretely, in national security affairs modern Presidents cannot afford a series of "Bay of Pigs" episodes, nor can they afford contradictions between diplomatic and military initiatives. In domestic affairs, they cannot afford to allow brave legislative responses in the fields of environmental management and control and human resource development to be blunted by ineptness and confusion in implementation, as has been the case with much of the Great Society legislation of 1965-65. In economic affairs, Presidents cannot afford to return to earlier days when the varying power centers of economic stabilization policy making (notably key congressional committees, the Budget Bureau, the Council of Economic Advisers, the Treasury, and the Federal Reserve Board) went their separate ways. To do so would be to invite economic disaster.

The difficulty is that the magnitude of the political as well as administrative tasks in assuring some modicum of competence and coherence in these preeminent areas of public policy is staggering. For there are no organizational gimmicks capable of overcoming the enormous centrifuge of governance in our pluralistic society.

An attack upon the managerial inadequacies of the federal government should encompass at least the Executive Office of the President, the departmental and agency structure, the federal field office structure, the devolution system for the transfer of federal funds and functions to nonfederal agencies, and the federal personnel system. As we shall note later, none of these five points of attack can be negotiated without major presidential attention to the configurations of power dominating the Congress.

Before examining policy alternatives and recommendations relating to each of these separately and in combination, a brief review of federal reorganization efforts of the past several decades is in order, for future possibilities are inevitably conditioned by the legacy of the past.

Concern with the organization and management of the national government goes back a long way. The first study was commissioned by the Continental Congress in 1780. For the first century of this nation's history, however, investigations into these issues were feeble and intermittent.

It was only when the federal budget approached the billion-dollar mark, during the administration of President William Howard Taft, that a major attempt was made to examine questions of overall structure and procedures. And even the Taft Commission on Economy and Efficiency (the Cleveland Commission, 1910-13) devoted most of its energies to minute problems of internal management. The major fruit of its labors was the Budget and Accounting Act of 1921, which established the Bureau of the Budget (BOB) in the executive branch and the General Accounting Office in the legislative branch. The Bureau of the Budget was the first nonwartime centripetal staff agency available to the President for the conduct of his managerial responsibilities.

The 1920s witnessed a variety of additional proposals, both legislative and executive, focused on administrative reorganization. Most of the major recommendations got nowhere. Occasional authorizations were given to the President for minor reassignments of functions across agency lines, but Congress systematically pigeonholed or voted down any major delegation of power to the President for reorganizing executive branch functions.

In 1932, President Herbert Hoover submitted a message to the Congress calling for a massive reorganization of the executive branch. In a classic statement of the "practical difficulties of such reorganization," he commented as follows:

"Not only do different fractions of the Government fear such reorganization, but many associations and agencies throughout the country will be alarmed that the particular function to which they are devoted may in some fashion be curtailed. Proposals to the Congress of detailed plans for the reorganization of the many different bureaus and independent agencies have always proved in the past to be a sign for the mobilization of efforts from all quarters which has destroyed the possibility of constructive action."¹

How penetrating this observation was can be judged by the fact that after the law was passed every executive order submitted by President Hoover to implement the act was disapproved. Furthermore, the law itself provided for key exceptions to the President's sphere and requested him to set up consolidations of the following governmental activities:

"Public Health (*except that the provisions hereof shall not apply to hospitals now under the jurisdiction of the Veterans Administration*), Personnel Administration, Education (*except the Board of Vocational Education shall not be abolished*) . . . and to merge such other activities, *except those of a purely military nature*, of the War and Navy Departments, as . . . may be common to both . . . *except that this section shall not apply to the United States Employees Compensation Commission.*"²

This was not the first nor was it to be last of such explicit exceptions to the reorganization authority of Presidents.

The coming of the New Deal brought a totally new dimension to the policies and organization of the executive branch. A bevy of new laws created a host of new agencies and a variety of new functions within old agencies. And President Franklin D. Roosevelt had no institutional machinery for rationalizing and resolving emerging administrative issues, or for supervising in any meaningful sense the hundred-odd separate departments and agencies that reported directly to him.

In 1936, President Roosevelt created the Committee on Administrative Management under the chairmanship of Louis Brownlow. The report of the Brownlow Committee was probably the most sensible and impressive ever made on federal government organization. Many of its recommendations, notably those concerned with the independent regulatory commissions, the Civil Service, the General Accounting Office, and new cabinet departments, were largely ignored by the Congress. Its lasting contribution was the successful recommendation to create an Executive Office of the President (EOP) containing an expanded White House staff, the Bureau of the Budget (until then housed in the Treasury Department), and a National Resources Planning Board. Although the last was killed by con-

¹ W. Brooke Graves (comp.) *Reorganization of the Executive Branch of the Government of the United States: A Compilation of Basic Information and Significant Documents, 1912-1948*, Library of Congress, Legislative Reference Service, Public Affairs Bulletin No. 66 (1949), p. 96.

² Graves (comp.), *Reorganization of the Executive Branch* (emphasis supplied).

gressional action in withholding appropriations in the early 1940s, the essential rubric of the Executive Office has remained. It is inconceivable that the government could have successfully negotiated the turbulent currents of the past quarter century without it.

The Second World War saw the inevitable proliferation of war-related agencies, most of which disappeared at the end of the conflict. But the experience of war, especially the difficulties of relating separate military services to the consolidated demands of amphibious warfare and the serious problems of interrelating diplomatic and military initiatives and intelligence, led in 1947 to the National Security Act which created a National Defense Establishment, a National Security Council, and a Central Intelligence Agency. It would take time for these components to emerge into any kind of structural coherence, but the 1947 act set the foundation stone for the future.

In the immediate postwar years, the other major organizational development was the creation of the Council of Economic Advisers in the Executive Office of the President. This added staff resource has been of invaluable help to the President and the Congress in analyzing the state of the economy, in planning fiscal policy, and in acting as the major catalyst of interagency (BOB, Federal Reserve, Treasury) cooperation on fiscal matters.

Also in 1947 President Harry Truman asked Congress to create a bipartisan, twelve-man Commission on Organization of the Executive Branch of the Government.

The Commission (the First Hoover Commission) reported, and at length, in 1949. A number of its recommendations were adopted, under President Truman and later under President Dwight D. Eisenhower: the creation of a Department of Defense (replacing the National Defense Establishment); the assignment of the National Security Council to the Executive Office of the President; the creation of a cabinet-level department of Health, Education, and Welfare (HEW); and the centralization of increased authority in department heads, cutting away at some of the statutory authority that Congress had assigned at the subdepartment level. But many sacred cows were left undisturbed, and the commission's plea for a "sharp reduction" in the number of federal administrative agencies fell upon deaf congressional ears.

A Second Hoover Commission was created in the mid-1950's; but its mandate, to examine governmental functions which should be discontinued, was preposterous, for it invaded the constitutional prerogatives of President and Congress. The commission's effective residue was little more than a chemical trace.

Aside from Secretary Robert S. McNamara's progress in transforming Defense from a *de jure* to a *de facto* department, the creation of an Office of Science and Technology in the Executive Office of the President, and the assigning of a White House role to the chairman of the Civil Service Commission, no substantial success greeted the John F. Kennedy administrations' various attempts to reorganize the government.

President Lyndon B. Johnson has succeeded in adding two new cabinet departments: Housing and Urban Development (HUD), and Transportation. He also added the Office of Economic Opportunity (OEO) to the Executive Office of the President. During his administration a number of task forces have addressed themselves to questions of government organization—especially in the increasingly tangled thicket of intergovernmental relations as they relate to problems of poverty, race, welfare, urbanism, and education.

However, most of the underlying problems of organization remain. These have been illuminated time and again by presidential task forces, by congressional committees, by journalists, pamphleteers, and scholars. Congressional literature is particularly rich. Notable in recent years have been the studies of the Jackson Subcommittee on National Security Staffing and Operations and the Muskie Subcommittee on Intergovernmental Relations of the Senate Committee on Government Operations. More recently committees in both the Senate and the House have examined the adequacy of federal organization for mounting a coherent attack upon problems of the physical environment.³

Although these various studies, investigations, and proposals have differed in viewpoint and attack, there has emerged in recent years a consensus on two major issues: (1) the federal government lacks machinery for the effective development, implementation, and coordination of public policy; and (2) the conduct of the government's business is overcentralized in Washington.

³ See esp. *Managing the Environment*, Report of the House Committee on Science and Astronautics, 90 Cong. 2 sess. (1968); and *Report of the Joint House-Senate Colloquium to Discuss National Policy for the Environment*, 90 Cong. 2 sess. (1968).

Proposed remedies have included recommendations for the enlargement and restructuring of the Executive Office of the President; the consolidation of federal programs and functions into a few major departments; the strengthening of staff offices at the level of the secretary; making a departmentwide (secretary's) presence felt in federal field establishments; upgrading the quality and enlarging the power and discretion of federal field offices at home and abroad; devolving the conduct of federal business increasingly upon state and local authorities and upon private or quasi-public instrumentalities; and reform of the career services and upgrading of public personnel charged at various levels of government with the conduct and control of federal policy.

Whatever merit these various recommendations have had (and this paper will later explicate and endorse a number of them), they have tended to suffer from two overriding limitations: first, as commonly set forth, they have ignored the realities of congressional power, the rigidities of the present congressional committee structure, and the mutual deference patterns within the legislative branch, all of which affect the organization and conduct of federal programs; second, many of them have failed to articulate some of the administrative and policy costs and consequences possibly attendant upon their adoption. It is possible, for example, that unless extreme care is taken program coordination can be the enemy of program energy. "Keeping track" may be the enemy of "making tracks."

It may be argued, of course, that this dilemma is false; that topside planning and coordination is the precondition, not the enemy, of effective subordinate energy; that if program coordination is not rationally produced at the top it will be irrationally and wastefully accomplished through survival-of-the-fittest skirmishes at lower levels. This, in fact, is the author's own considered judgment. But to state the ideal is a far cry from realizing it in practice, and history suggests that arrangements constructed to achieve this ideal are inherently unstable—tending to veer toward the Scylla of a debilitating overcentralization on the one hand, or the Charybdis of programmatic anarchy on the other. All one can say at this moment is that historically in the United States more bones have been scattered around Charybdis than around Scylla. To change the idiom, constitutional and political beliefs and forces tend to run against generalist "kings" in favor of functional "barons."

THE LIMITATIONS OF EXISTING DEVICES

The validity of the foregoing proposition hardly needs elaboration. It can be readily documented by examining the weakness of centripetal devices now in

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First, there is the device of statutory or ad hoc interdepartmental and interdepartmental committees. There are thousands of them in the federal government alone, including a number in the Executive Office of the President. Most of them suffer from three chronic ailments: (1) confederationitis, (2) progressive deputization, and (3) implemental anemia. The first leads to common-denominator "paper" solutions for problems frequently calling for uncommon-denominator practical solutions. The second, marked by preoccupied secretaries requesting under secretaries to sit in for them, who in turn deputize assistant secretaries, who in turn deputize deputy assistant secretaries, ad infinitum, leads inevitably to a loss in the plenipotentiary capacity of the committee members, and of the necessity of referring every important issue back to each agency for topside clearances. The third means that, even if and when consensus can be reached within an interdepartmental committee, such consensus is not self-enforcing and can, in fact, be rendered inoperable by the failure of constituent units to implement the decision reached. When such committees are established by congressional mandate, further complications arise, for they cannot easily be disbanded nor their agenda adapted to new issues. If they become well-staffed and effective, they may interpose themselves between the President and his department heads and develop a policy line out of phase with both.

Necessary as such committees are, their numbers should be drastically pruned, and in any case they are no solution to most problems of program planning, coordination, and operational effectiveness that afflict the public sector.

Second, the "lead agency" notion, however attractive in theory, seems to have similar limitations. Bringing all relevant agencies together for specific program purposes under the chairmanship of the head of the department that has major concern or competence in a particular policy area would seem on its face to be a reasonable approach. But, since everyone likes to coordinate and few like to

be coordinated—especially by one's peers—this device tends to degenerate into a simple interdepartmental committee with all of the inadequacies suggested above. Low-level issues may be thrashed out and clarified; tough issues of jurisdiction and authority rarely are, for disgruntled committee members have the option of appeal to centers of power in the presidency or in the Congress that can effectively override the decisions of the lead agency. The history of OEO, HUD, and HEW in that role is not encouraging, although some promise can be found in some of the lead-agency functions performed in foreign affairs by the Department of State.

A third device is coordination by presidential advisers, White House assistants, or by other representatives of the Executive Office structure. This has been attempted in various forms over the past decades. Sometimes the job has been given to individual men of considerable stature and ability (for example, Colonel Edward M. House, Harry Hopkins, "Jimmy" Byrnes, Sherman Adams, a vice president). The de facto "prime" minister, or executive vice president, device suffers, however—at least, in our form of government—from two intractable flaws. If he is strong, he tends to shield the President from issues, information, and forces essential to presidential judgment and power; if he is weak, he tempts others to go around him, thereby creating rather than solving problems for the chief executive.

More often, the President has used his "anonymous" White House assistants and his major institutional staffs in the Executive Office of the President to assist him in program planning and coordination. However successful this fairly flexible arrangement has been (and, if it had not been partially successful, the federal government could not operate at all), it has serious weakness. If the President defends his intimate staff too often, he has created a supercabinet; if he does not defend them at all, they are powerless. If he institutionalizes them, their time is preoccupied with managing their own subordinates, limiting their time and tolerance for intimate contacts with the President; if he does not institutionalize them, they become swamped by paper from below and expectations from above. And in many areas of public policy where the President himself is weak (programs under the jurisdiction of independent regulatory commissions: agencies like the Atomic Energy Commission and the Army Corps of Engineers that are effectively controlled by congressional committees), presidential staff, no matter how brilliant, are limited by legal and political reality.

This rather melancholy sample of centripetal coordinating devices and their weaknesses is not meant to suggest that nothing has been done or can be done to improve the coordination of policy planning and implementation in the federal government. There have been many evidences of at least partially successful endeavors along these lines. The Bureau of the Budget at its best is a remarkable and indispensable coordinating device, especially when buttressed by informational and analytical skills of cognate agencies like the Council of Economic Advisers and the Office of Science and Technology. Presidential assistants play out a daily drama of conflict resolution and program rationalization. The transformation of the Department of Defense under Robert McNamara is an indication of what at the departmental level can be done, in Paul Appleby's felicitous phrase, "to make a mesh of things." The development of analytical instruments like PPBS (Program Planning and Budgeting System) shows promise of making resource allocation choices more coherent and rational.

But enormous inadequacies remain and they cannot be redressed effectively without a sober recognition of the fact that the battle for improved federal management must be fought on a number of fronts simultaneously. The five major salients already identified need particular attention: the Executive Office of the President; departmental arrangements; federal field establishment; the devolution system; and personnel systems at all levels.

Executive Office of the President

The presidency is the only institution in the American polity where overarching and long-range public imperatives can be coherently analyzed and melded. This is true both because of the ubiquity of the presidential constituency, and because the President is mandated to recommend to the Congress a coherent program for allocating resources to and within the executive branch.

The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive.

In the present age, as already noted, these prime concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses.

Because priorities change and, more important, because each President has his own leadership style, he must be given very substantial latitude in organizing, reorganizing, and adjusting the constituent units of his executive office. He must also have at his disposal substantial discretionary funds (\$25,000,000 per year as a minimum) to permit him to tap selective expertise across the nation on an ad hoc basis, and to initiate in-house experimental capabilities for improving the planning and management functions of the office. The present discretionary funds of the President for "special projects" (\$1.5 million) are totally inadequate.

If the President can secure from Congress the right to structure and manage his own office without restriction—including the right to make in-office appointments without Senate confirmation and the right to create, shift, and abolish constituent units and personnel assignments as he deems necessary for the effective conduct of presidential business—he will have won a major victory for effective public management. These prerogatives are essential if he is to have authority anywhere near commensurate with his administrative and policy-making responsibilities.

Granted this kind of authority and discretion, what should he do with it? Although each President will and must use them according to his own temperament and administrative proclivities, three weaknesses exist in Executive Office of the President capabilities so glaring as to merit special emphasis.

First is the office's weakness in policy development. The presidency is perched on top of what one astute observer has called "a bottom-heavy administrative system." Policy proposals tend to emerge from levels of operational enthusiasm, which are likely to be the lower and middle governmental levels, coupled with discrete, single interest segments of the private sector. Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency in the Executive Office of the President charged with the study of emerging public problems and the development of effective programs to deal with them in terms of continuing and changing presidential perspectives of the public interest. This is less true, of course, in the occult fields of economic stabilization policy and national security policy where the Council of Economic Advisers and the staff of the National Security Council have increasingly strengthened their policy-review capabilities. But in the increasingly troublesome and important areas of environmental management and "people" programs (health, poverty, education, welfare, housing, urban renewal, and the like) the EOP is patently deficient. Existing budgetary and legislative clearance reviews are inadequate. There is no underlying statistical and informational system of social and environmental indicators comparable to the economic indicators available to and through the Council of Economic Advisers. Whatever its original intent, the Office of Economic Opportunity has become an operational advocate, not a reflective center of governmentwide policy analysis. Since the demise a quarter of a century ago of the National Resources Planning Board, no presidential staff has concerned itself full-time with ecological interdependencies. The only gestures in this direction in recent years have been the Committee on Environmental Quality of the Office of Science and Technology, and a Water Resources Council independent of the Executive Office structure. The former is too small and weak to be effective (ideally, it should be reconstituted as a separate, strongly staffed office in the Executive Office of the President); the latter is limited by statute to water resources alone.

Whether effective policy analysis staffs in the environmental and human resource areas should be combined or kept separate, should be created inside the Bureau of the Budget or as a new and separate agency within the EOP (on balance, the author's choice) is perhaps of secondary importance. What is essential is that such a capability exist in the Executive Office of the President. Coherence and rationality in federal programming in these areas is impossible without such a capability. This is true in Washington; it is increasingly true in the complex arena of intergovernmental relations. State and local governments are federal partners in the purveyance of public services; their capacity to develop programs that effectively complement and implement national policies is today a matter of crucial importance. Too often they are bound by rigidities

and categorical overprescriptions imposed by federal legislation and by administrative regulations and guidelines. There is a pervasive need to loosen existing categorical boundaries without destroying the basic thrust of federal categorical grants designed to promote the national interest.

One possible device to meet this need might be for the President to assign staff from his executive office and/or relevant departments and agencies to ride budgetary circuits in the fall of each year. Such staffs, with advance congressional approval, might be empowered to permit state and local governments to shift up to, say 25 percent of approved categorical federal grants from one category to another; this would make the grants more relevant to varying state and local needs and would promote a series of useful dialogues between the partners of the federal system.

The second weakness of the President's office is the inadequacy of machinery for command and control within the sphere of his own executive competence. As suggested earlier, there are many areas of policy in which for reasons *de jure* or *de facto* the President has authority only to persuade and cajole, or in which he must repair to informal powers deriving from his political rather than his constitutional status. But even when his legal authority is clear, he lacks efficient means of enforcing his political will. Little is gained in strengthening the policy analysis capabilities of his office unless he can effect more coherence in policy implementation. It is true that knowledge can be power, and the President's directive responsibilities can probably be exercised with greater effectiveness if his policy analysis staffs are able to create information systems that include hard and systematic evaluations of federal programs. But the President's present span of control is so unwieldy, his budgetary flexibility is so limited, and his managerial universe is so ponderous that intelligence alone will not give his directives appropriate clout. If two or more agencies chart collision courses or if they determine to ignore presidential guidance, there is little the chief executive can do short of ultimate sanctions (such as firing) that often have prohibitive political costs.

It is this reality, of course, that has led a number of administrative reformers to suggest that the President needs one or more executive vice presidents or presidential coordinators to whom he can delegate command functions over parts of the executive branch, including his cabinet departments, in Washington and in federal field establishments. The inconveniences and political hazards of such devices and developments have already been traced. But the problem remains, and the need is real.

There is no single and easy solution to the problem, but if the President is given the kind of flexible control over his own office called for above, he should certainly use this elaborated discretion to experiment with a number of command-control devices. At the very least, he should create a team of two or three or four presidential "administrators" or "expeditors," removed from the day-to-day preoccupations of existing White House aides, who could be assigned on an *ad hoc* and short-term basis as troubleshooters to straighten out jurisdictional conflicts among agencies, both in Washington and (on an itinerant basis) in the field. "Ad hoc" and "short-term" must be underlined, for permanent and long-term portfolios for such assistants could only produce impossible tensions with cabinet secretaries, agency heads, and key legislators. Furthermore, they might easily create centers of power in the executive branch competitive with, rather than derivative of, presidential authority. Such administrators or expeditors must be men of considerable personal stature. As surrogates for the chief executive in a system inherently unfriendly to surrogates, they must be skilled in mediation, soft of voice, wise in the ways of politics, and utterly devoted to the President—institutionally and personally. The President must be prepared to support their judgments in the overwhelming majority of cases while being willing on occasion to overrule them on appeal. This complex prescription may prove to be impossible of implementation, but it is the only one that, in the judgment of this author, gives promise of success.

The third and final major weakness of the presidential office is in communicating with the public and with state and local officialdom. Here, too, there are constraints. Too "open" a presidency can build impossible expectations, induce claimants to by-pass channels of access to departments and to Congress, clog the President's information system, and preclude that measure of confidentiality necessary for face-saving negotiations. Too frequent use by the President of the mass media dilutes the President's "Nielsen rating" with the consequent danger of limiting his impact when real crises appear.

But inadequate communications, both inward and outward, can be equally perilous. Fresh ideas from creative citizens, and from public officials at all levels of government, can be lost or ignored. A public bewildered by complex public problems can be denied the clarifying and unifying voice of the President. In such circumstances, the chief executive can easily become vulnerable to surprise and miscalculations.

Adequately mandated policy analysis staffs and presidential expeditors with sensitive antennae can remedy some of the existing defects in communication flows, but far more needs to be done to help the President develop effective techniques and policies. A public information competence must be built into the White House, possibly in an enlarged office of the press secretary, and at least one unit in the White House should be devoted to intergovernmental liaison with governors and with top officials of local government.

There are still other weaknesses in the Executive Office at the President. First, there are far too many statutory and ad hoc interdepartmental councils and committees with fuzzy mandates, little or no power, and only intermittent and unsatisfactory access to the President himself; these should be abolished or consolidated with more permanent staff operations. For example, the National Aeronautics and Space Council and the Marine Resources Council should probably be placed under a comprehensive Office of Environmental Analysis. The whole structure of citizens' advisory committees to the President should be reviewed and rationalized.

Second, the White House needs an even greater capability to identify talent for appointive federal positions in both domestic and international departments and agencies. It is an unfair strain upon the chairman of the Civil Service Commission to serve both as director of the President's personnel operations and as the policy chairman of the major career service of the federal government.

Third, the operational aspects of the Office of Emergency Planning (for mobilizing the services of all levels of government to meet emergencies of war or natural disaster) and the Office of Economic Opportunity should devolve upon other agencies (the General Services Administration for Emergency Planning; HEW and/or Labor for OEO), although in the case of OEO extreme care must be taken to insure that the innovative and flexible characteristics of many of its programs are not destroyed by transfers to more traditional and conservative bureaucratic superiors. It should be possible for some civilian counterpart to the "Green Beret" or Marine Corps mission-oriented services, often competitive with more massive and sodden bureaucracies, to be established (and disestablished) within existing departments or as functions of independent agencies. The Executive Office of the President is not the appropriate rubric for these kinds of operating line activities.

Fourth, the staff competence within the Executive Office (presumably within the Bureau of the Budget) for studying and recommending structural changes and procedural improvements throughout the executive branch organization, on a continuing basis, needs to be strengthened in quality, size, and funding.

All of these are important addenda to the three essential areas of concern identified earlier. Progress along all of these lines can best be promoted by giving to the President effective control over the organization, staffing, and missions of the Executive Office of the President. If this is to happen, as we shall note below, the President must ask for and receive the understanding, support, and assistance of the United States Congress.

Departmental structure

One of the basic tenets of public administration is "span of control." In its simplistic form, at least in the federal government, it is a silly notion. The number of units reporting to a single administrator is not the essential factor in determining topside control. Ten units are too many if each has its own base of power in the legislature or in clientele groups of significant political influence. A hundred units are manageable if most of them lack an independent base of power, and if their mission is precise and low voltage. Little is gained or lost in terms of "good management" in the executive branch if the Corregidor-Bataan Memorial Commission, the American Battle Monument Commission, the Commission of Fine Arts, the Foreign Claims Settlement Commission, and the Panama Canal Company are allowed to continue as independent, free-wheeling agencies. Those who would tidy up the administrative structure of the executive branch by putting everything under four or five giant-sized superdepartments, or under fifteen or twenty economy-sized regular departments, on the ground that only

then can the President enjoy a manageable "span of control," overestimate the importance of the precept and underestimate the difficulties of achieving intra-departmental, let alone interdepartmental, coherence in anything as complex and diffuse as the federal government.

This is not to say, however, that the present structure of departments and agencies is either logical or efficient. Some regrouping and much internal reorganization, especially at the bureau level, is patently necessary. But since both of these kinds of moves involve political headwinds of gale force, a President should pick and choose a few major objectives and should calculate his political rations with extreme care.

The difficulty is that across-the-board generalizations about federal departments and agencies are inherently dangerous or irrelevant. Some are probably too large and heterogeneous (for example, HEW); some are too small and/or clientele-oriented (Labor, Commerce, Veterans Administration (parts of Interior, Agriculture, and HUD); some are too independent (certain regulatory commissions); some are too dependent upon Congress (Atomic Energy Commission, the Corps of Engineers, the FBI); some are miscast as cabinet departments (Post Office); some are too plagued with ingrown career service elitism (State); some lack the internal capacity or external support to generate and sustain high morale (Agency for International Development.) A general diagnosis and a general therapy are, in short, effectively impossible.

It is possible, however, to raise questions about departmental and agency structure relating to at least two of the four overarching concerns of the President: environmental management and control, and human resource development.

This is not to say that is well in the field of administering national security policy and economic stabilization policy—though the administrative machinery in the latter field has functioned relatively smoothly in recent years. While space does not permit an extended discussion here of problems in the national security area, it must be noted that the overseas mishmash of federal agency representatives still escape effective control by the ambassador in the field or by the Department of State in Washington. The inflow of information and intelligence by cable and pouch has long since passed the point of digestibility. Horizontal and lateral clearances absorb an unconscionable amount of time and effort and involve delays that are sometimes dangerous. Some of these difficulties defy organizational rationalization; others might be partially obviated by an appropriate delegation of authority to regional assistant secretaries of state and by a more elaborate and effective staffing of the office of the Secretary of State. In 1962 the Herter Committee on Foreign Affairs Personnel recommended an executive under secretary of state, a further administrative option that deserves careful consideration.

On major and critical issues of foreign affairs the threat of apocalyptic consequences has a way of crystallizing small cadres of influentials under the immediate direction of the President. Emerging policies may not always be wise, and the ponderousness of the structure and the system of communications may at times create crossed signals of serious consequence (as when in 1966, peace negotiation with North Vietnam were reputedly shattered by the President's unrecollected prior approval of bombing selected targets near Hanoi). But after a decade of review of national security machinery, the Jackson Subcommittee, although it has recommended a number of incremental improvements, has found no magic formula for a major structural reorganization. All that can be said is that the importance of the issue suggests that urgent and continuing attention must be given to the adequacy of staff arrangements for serving the President in this area of preeminent executive concern.

On the domestic front some major structural changes may well be needed in organization. Those involving the Executive Office of the President have already been discussed. At the departmental and agency level, four questions especially warrant hard analysis and viable answers:

First, how can the management responsibilities of cabinet secretaries and the heads of important line agencies be strengthened without throwing a wet blanket on the morale, energy, and discretion of subordinate operating bureaus?

Second, how can a gigantic hydra like HEW be split up without losing the benefits that logically accrue from reviewing health, education, and welfare as inter-related programs and values?

Third, how can the rule-making power of independent regulatory commissions be more effectively related to the policy mandates assigned by Con-

gress to the President and to departments and agencies without jeopardizing the integrity of the quasi-judicial role of regulatory commissions?

Fourth, how can agency functions be regrouped in the human and environmental resources area in such a way as to promote more coherent program planning and implementation without taking on more battles with vested interests than any single administration can afford?

Again, there are no simple answers to any of these dilemmas, but certain directions seem more promising than others.

On the first question, the essential controls of an agency head over constituent units are three, and only three: (1) control of legislative proposals; (2) control of budgetary totals; and (3) control of major personnel appointments and assignments. Each department secretary and agency head should have a staff, a management information system, and adequate legal and political authority to develop and maintain competence in these areas. The staff need not be large, but it must be highly competent and must be supported with a flow of information that will enable it to present rational policy alternatives to the agency head. With these tools of general, overall management at his disposal, an agency head can delegate to line subordinates a substantial amount of operating discretion. He can also be equipped to serve the President and the Congress in their roles of making politically accountable decisions. Many departments lack the staff, the information system, and the legal and political authority essential for responsible management. The President should urge, and Congress should support, reforms leading to the improvement of this condition.

On the second question, there is probably more to be gained than lost in splitting up HEW. The issue is not the number of employees; Defense, Post Office, Agriculture, and the Veterans Administration all have a larger civilian work force. The issue is the heterogeneity of constituent functions, the size of the budget (HEW's budget is five times greater than the next largest civilian agency), the extensiveness of mandated intergovernmental relations, and the limitations that the present structure imposes on attracting top-grade personnel to man programs of extraordinary national consequence—education, for example. A separate Department of Education would not only symbolize the importance of the federal government's commitment to an essential and growing public function: it would serve as a rubric for gathering together at least some of the educational activities being carried out by departments and agencies outside of HEW (for example, National Science Foundation, OEO, Veterans Administration, National Humanities Foundation, Bureau of Indian Affairs). A Department of Health and Welfare should have no more difficulty in relating to a Department of Education than HEW presently has in relating, its disparate activities to cognate functions in HUD, Labor, OEO, in the human resource development area; or to Interior, Agriculture, and the Corps of Engineers in the area of environmental management and control. Granted that these difficulties are substantial, a strengthened program planning and implementation capacity in the Executive Office of the President could more than compensate for any loss in intergrading functions now lodged unsuccessfully in the top echelons of an overgrown HEW.

On the rule-making authority of certain independent regulatory commissions, the analyses and advice of the Cushman Report (part of the Brownlow Committee study, 1937) and of the First Hoover Commission (1949) need rereading and studied implementation. America will never have a coherent transportation policy until the rulemaking functions (making general legislative mandate specific) of the Interstate Commerce Commission and the Federal Maritime Commission are integrated with the policy responsibilities of the new Department of Transportation. America will never have a coherent power policy until the rulemaking functions of the Federal Power Commission and the Atomic Energy Commission are consolidated with those carried out by the Department of the Interior. There have been until now sufficient political barriers to changing the structure and functions of independent regulatory commissions to raise serious questions about the viability of new or reiterated recommendations. But the problem is real, and there are no inherent difficulties in separating rule making from the quasi-judicial functions (making judgments about the legality of activities pursued under laws and rules) of regulatory agencies, preserving the integrity of the latter while making the former subject to responsible and coordinated political control.

The fourth question, on the regrouping of agency functions in the human and environmental resource areas in the face of vested interests, is the toughest. It can be answered in practice only by sophisticated management studies buttressed by executive-legislative concordats. In the absence of major structural changes,

some experiments in establishing multiagency operational task forces under the command of presidential designees might well be undertaken—at least where target problems are fairly precise and short-term.

EXHIBIT 3

NIXON TASK FORCE URGES CREATION OF TOP-LEVEL ENVIRONMENTAL AFFAIRS POST

(By Peter Khiss)

President-elect Nixon has received a strong recommendation for naming a Special Assistant for Environmental Affairs, working out of the White House for the first time to dramatize concern over increasing pollution.

"The real stake is man's own survival—in a world worth living in," one of 10 task forces he named on domestic planning has reported to Mr. Nixon in an opening report that said Federal performance in the field thus far had been "disappointingly low."

"The gap between need [as indication by authorized funding] and appropriations in the air and water pollution abatement programs is critical and growing," the task force advised Mr. Nixon.

"For example, in fiscal year 1969, in the water pollution program, there is an authorization of \$836-million, an appropriation of \$302.8 million and a possible demand in available state and local matching funds of \$1.2-billion," it was stated.

The initial report was submitted to the President-elect last Saturday in New York by a 20-member Task Force on Resources and Environment, headed by Russell E. Train, president of the Conservation Foundation.

On that same day Mr. Train was reported to be under consideration for the post of Under Secretary of the Interior and was briefing the Secretary-designate, who is Gov. Walter J. Hickel of Alaska.

DETERIORATION CITED

Urging that "improved environmental management be made a principal objective of the new administration," the task force cited "progressive environmental deterioration," including the following:

"The poisoning of our lakes and rivers, the pollution of our air, the changing carbon dioxide content of the atmosphere, the progressive deterioration of the organic fertility of our soils, the pesticides and other chemicals that permeate our living environment, visual ugliness and urban sprawl, the growing inhumanity of our cities, the rising tide of human numbers that threatens to overwhelm us and our civilization."

The group said it was not suggesting any "mammoth new programs" but rather putting emphasis on "performance—on making existing programs work."

While noting that "a host of conservation-environmental legislation" had been enacted, it said the disappointing performance had "a similarity here to the civil rights and poverty fields."

Appointment of a special assistant in the field, it was said, "would give the President for the first time a means of effectively influencing environmental policy across a wide range of agencies."

The new office, it was suggested, would "deal with the problems of compartmentation and conflict—often between Cabinet officers—that arise constantly in resources and environmental matters."

LIAISON FORESEEN

The new assistant, the report went on, should work closely with the President's science adviser, the chairman of the Council of Economic Advisers and the Budget Director.

It was also proposed that the new assistant be executive secretary of a new President's Council on the Environment, which would represent a broadening of the present interagency Council on Recreation and Natural Beauty.

The task force proposed that Vice President-elect Spiro T. Agnew serve as chairman of the reconstituted council "to provide leadership superseding the interests of any single department."

"Federal programs with major environmental impacts, such as highway construction," it was said, "should take into account the side effects, such as air

pollution, which are the program responsibility of completely separate agencies. Present structure and, more important, present practice are grossly inadequate in this respect."

A supplementary paper on pollution asserted that "appropriations should be brought up close to authorizations" in Federal programs, but suggested that it would be better to reduce authorizations rather than let states and localities delay action "in unwarranted hope of Federal contributions."

SUGGESTION ON COSTS

This suggestion for possible Federal cuts drew a note from one task force member, Lelan F. Sillin, Jr., president of Northeast Utilities in Hartford, Conn., that it "should be eliminated."

The report's discussion of difficulties in tax incentives for reducing pollution or effluent charges as a means of control drew adverse comment from another member, John H. Meier, executive aide of Hughes-Nevada Operations, of Las Vegas, Nev.

Mr. Meier's comment was that "most of the polluters involve large-scale industry" and "should be required to carry the burden of removing the danger to the rest of the environment."

"If sufficient standards are set to guarantee public health and the enforcement is not interfered with by special interests who lobby against regulation rather than spend money on cleaning it up, the problem can be solved," Mr. Meier wrote.

Other task force members include:

- Edward A. Ackerman, executive officer, Carnegie Institution.
- Stanley A. Cain, professor, University of Michigan.
- Charles H. Callison, executive vice president, National Audubon Society.
- Joseph L. Fisher, president, Resources for the Future.
- Loren V. Forman, vice president, Scott Paper Company.
- Charles H. W. Foster, consultant, Conservation Foundation.
- Maurice K. Goddard, Secretary of Forests and Waters, Pennsylvania.
- Norman B. Livermore, Jr., Secretary of Resources Agency, California.
- Charles F. Luce, chairman, Consolidated Edison Company.
- H. Byron Mock, Salt Lake City lawyer.
- Bernard L. Orell, vice president, Weyerhaeuser Company.
- Nathaniel P. Reed, conservation adviser to Governor of Florida.
- S. Dillon Ripley, secretary, Smithsonian Institution.
- Laurance S. Rockefeller, chairman, Citizens Advisory Committee on Recreation and Natural Beauty.
- John O. Simonds, Pittsburgh landscape architect.
- M. Frederik Smith, American Conservation Association.
- John W. Tukey, Princeton professor and executive-director of Bell Laboratory.

The CHAIRMAN. S. 1075 authorizes a program of studies, surveys, and research relating to the Nation's ecological systems and natural resources; establishes a Council on Environmental Quality in the Executive Office of the President; and declares a national policy for the environment. The intent of all these measures is to take action toward the establishment of a national strategy and a national capacity for the management of the human environment.

The introduction of these bills is a manifestation of public and Congressional concern which is widely felt and widely expressed. The concern is that we may be giving insufficient public attention to one of the most serious threats to the future well-being of our Nation and our civilization—the mismanagement and degradation of our physical environment.

The fundamental question our Nation and the Federal Government now faces was well stated in the background paper Professor Lynton K. Caldwell prepared at my request for the Committee's use. The question is this: "How should the Federal Government be restructured to deal more effectively with the growing stress upon our natural environment?"

Today's concern for problems of environmental quality goes far beyond the conservation of expendable resources and problems of waste disposal and public health. It encompasses all of these matters of human survival, but it also includes the aspirations of our citizens for a life among surroundings which afford tranquility, opportunity for diversity of experience, and the enrichment of human existence.

The Federal Government has the responsibility to provide for the general welfare of the United States. To a very great extent, the future welfare of the United States may depend upon the kind of job this Government does today in managing the environment. In the past, man's impact upon the earth was moderated by his limited capacity to alter nature. With the technological revolution of recent decades, man's capacity to irreparably damage the environment has increased until, today, some of the Nation's most difficult public problems result from our failure to have public policies designed to deal with environmental problems.

The threat of new damage from continued past failures or enlarged future errors is frightening. A simple projection of our record of past failures into the future reveals an intolerable situation. With today's technology, the margins for error and mistake are greatly diminished.

I am not aware of anyone who disagrees that action is necessary if we are to maintain a clean, healthy, safe, and productive environment for present and future generations.

The bills we are considering this morning embody a number of ideas for Federal activities and Federal organizations which would provide basic knowledge and a focal point of concern to insure that future environmental management is enlightened and is capable of the tremendous responsibility it must bear. I believe there is nearly unanimous agreement among us that this kind of approach is needed and perhaps long overdue.

I understand that the President has under active consideration the establishment of an interagency environmental council composed of some of his top executive officers. This indicates that the President and officials in the executive branch share the belief of many of us in Congress that some reorganization is necessary. The President apparently agrees that the existing administrative establishment is inadequate for the task we face, and that a focal point for the environmental considerations of Government should be designated.

My experience in the area of national security leads me to believe that there are serious limitations in an interagency council as a means of administering broad functions of Government. The participants in such groups, if they are at the highest policy level, often do not have the time and energy to provide continuity of effort.

However, I am hopeful that we will have an opportunity to learn more of the President's proposal today. I welcome his interest and his willingness to devote the precious energies of his office and those of his major advisors to this problem. This is a heartening development.

I am hopeful, also, that we will receive constructive advice from the administration witnesses today regarding the bills pending before the committee. The administration has given careful attention and study to the executive organization for dealing with environmental and natural resources administration. I am sure that we can benefit

from the witnesses' suggestions and ideas in our consideration of the legislation before us.

It will be a time-consuming task to formulate a sound national policy for the environment and to make that policy operative throughout the vast Federal establishment. And the hour is already late. We must not be distracted by expedient or partial solutions, we must make strong and effective steps now.

Senator McGovern is ill and is not able to make an opening statement regarding his bill. He will submit one for the record at a later date. Senator Nelson, who is the author of S. 1752, is present and I believe would like to make some comments before we call the first witness, Dr. Lee A. DuBridge, the President's science adviser.

STATEMENT OF HON. GAYLORD NELSON, A U.S. SENATOR FROM THE STATE OF WISCONSIN

Senator NELSON. Thank you, Mr. Chairman. I certainly agree wholeheartedly with the statement just made by the chairman. I think it is necessary to create some kind of council of the nature as suggested by the chairman with the kind of independence that that council would have.

In recent years, distinguished scientists from every discipline have become increasingly alarmed at the accelerating pace of the destruction of our environment. They foresee an environmental catastrophe unless the trend is reversed in the very near future. Increasing millions of thoughtful Americans share their concern. We have seen the powerful forces at work creating one environmental crisis after another. We have witnessed the degradation of our air and water, the destruction of our forests, the desecration of our countryside, the disappearance of our wildlife, and now the threat to humans as well.

It is now entirely conceivable that these forces set in motion by man will prove so powerful and irreversible as to destroy the natural environment we have known in the past, and even to threaten the future of life on this planet.

More than any other public problem with which I am familiar, the threat to our natural environment poses a challenge to our system of self-government. There is a real question as to whether this Nation, which has spent some 200 years developing an intricate system of local, State and Federal Government to deal with the public's problems, will be bold, imaginative, and flexible enough to meet this supreme test.

Let us review for a moment what Government has already done—or at least what it has allowed to be done—to our environment.

In much of the Nation, we destroyed our forests. Then across the Nation, we destroyed our rivers. Our cities and our developing new industries converted many of them into sewers, killing their fish, ruining them as a recreational resource, and threatening the health of those who use them as a water supply.

And I might add all of this was done in the name of progress. And in every instance where I have said that we have to do this in the name of progress. You could substitute, "profits" for the word "progress," and come out with the same result. In any event, we have dangerously degraded our total environment. At the present, we are rapidly destroying all the fresh water lakes of this country. Our small inland

lakes are being ruined by over-development and by septic tanks and pesticides and our mightiest bodies of water such as the Great Lakes are being slowly and steadily destroyed by municipal, industrial, and shipboard wastes.

Pesticides now being used at the rate of 700 million pounds a year, are spreading all across the land and the water, poisoning soil, killing fish and wildlife, and posing a potential threat to human health. Just last month, the U.S. Food and Drug Administration seized 28,500 pounds of frozen coho salmon from Lake Michigan because high pesticide residues had made the fish unsafe for human consumption.

And I don't think there is any question but that every body of water in the world is polluted with pesticides, DDT in particular. Everybody who has studied the question is aware of the fact that DDT has permeated in the atmosphere throughout the world; that DDT is found in the fatty tissue of the penguin in the Antarctic where there has never been any DDT used, that it is found in the fatty tissues of wildlife and marine creatures almost everywhere. And in a study 3 years ago of 400 ocean marine creatures, 396 of them had DDT in their fatty tissue, and that is just one of the very many persistent slow degrading hydrocarbons that we have been introducing into the atmosphere.

Furthermore, we have degraded the air. Our factories, our automobiles, our public incinerators and our homes are filling the air with noxious gases and dangerous particles of pollutants at a terrifying rate.

Now, Mr. Chairman, I would ask that the balance of my statement be included in the record because I know you have other witnesses to be heard from. I simply wanted to read part of it saying that I doubt whether anyone could really adequately describe the disastrous situation that confronts all living creatures, and human beings are just one.

I sometimes wonder if it is the most important one even though we think it is. But the environmental threat to all living creatures on earth is a very serious one, and unless this trend is reversed we will have done damage of catastrophic proportions within the next few years. I understand, as the chairman stated, from reading the papers and talking with my friends within the Federal establishment, that the administration has been contemplating, at least the press so says, the creation of an interagency council composed of cabinet members, like perhaps the National Science Foundation. I join with the chairman of the committee, in saying, if this is correct, which I think it is, I commend the President and the administration and those who have had anything to do with considering this issue, for their concern about the problem. But I would like to say to the chairman that I agree with him that whereas recognition of the problem comes first, how you deal with it, what you do about it, is the real crux of the problem. Quite frankly, without being critical of it, and wanting to pay proper respect to the administration for being concerned enough to consider the problem, I have never in all the 20 years I have been in government seen an effective interagency group really make any hard decision that required some action that raised controversy. If it is a question about agreeing on little interagency things of no consequence then interagency groups may work very well. But if there is a tough problem or a series of tough problems, I think that interagency groups by their very nature are incapacitated to act.

Therefore, I would hope that the administration would look hard at the concept proposed in the legislation before this committee to create a prestigious, independent committee which could do the evaluating of the problem, make recommendations to the Federal and State governments and which could provide an inspired national leadership and have the prestige to secure the enforcement and support of not only the conservation groups in this country, which they would have, but the economic and political groups in this country which are so necessary and important in accomplishing the ends we seek here.

So I would hope that we could agree on some kind of an independent agency such as proposed in this legislation, because the problem is great and the time we have to solve it in my judgment is very short.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nelson. Your full statement will appear in the record.

STATEMENT OF HON. GAYLORD NELSON, A U.S. SENATOR FROM THE STATE OF WISCONSIN

Mr. Chairman, in recent decades, distinguished scientists from every discipline have become increasingly alarmed at the accelerating pace of the destruction of our environment. They foresee environmental catastrophe unless the trend is reversed in the very near future. Increasing millions of thoughtful Americans share their concern. They have seen the powerful forces at work creating one environmental crisis after another. They have witnessed the degradation of our air and water, the destruction of our forests, the desecration of our countryside, the disappearance of our wildlife, and now the threat to humans as well.

It is now entirely conceivable that these forces set in motion by man will prove so powerful and irreversible as to destroy the natural environment we have known in the past, and even to threaten the future of life on this planet.

More than any other public problem with which I am familiar, the threat to our natural environment poses a challenge to our system of self-government. There is a real question as to whether this nation, which has spent some 200 years developing an intricate system of local, state and Federal government to deal with the public's problems, will be bold, imaginative, and flexible enough to meet this supreme test.

Let us review for a moment what government has already done—or at least what it has allowed to be done—to our environment.

In much of the nation, we destroyed our forests. For instance the northland once had 200 billion board feet of white pine, one of the greatest concentrations of wealth anywhere in the world. We wiped it out in an eyewink of history and left behind 50 years of heartbreak and economic ruin.

Then, across the nation, we destroyed our rivers. Our cities and our developing new industries converted many of them into sewers, killing their fish, ruining them as a recreational resource, and threatening the health of those who use them as a water supply.

At present, we are destroying our lakes. Our small inland lakes are being ruined by overdevelopment and by septic tanks, and our mightiest bodies of water such as the Great Lakes are being slowly and steadily destroyed by municipal, industrial and shipboard wastes.

Pesticides, now being used at the rate of 700 million pounds a year, are spreading all across the land and the water, poisoning the soil, killing fish and wildlife, and posing a potential threat to human health. Just last month, the U.S. Food and Drug Administration seized 28,150 pounds of frozen Coho Salmon from Lake Michigan because high pesticide residues had made the fish unsafe for human consumption.

And now the very air we breathe. Our factories, our automobiles, our public incinerators and our homes are filling the air with noxious gases and dangerous particles of pollutants at a terrifying rate.

Thousands of deaths have officially been traced to air pollution, and many thousands more were almost certainly caused by it. And much more than our

health is at stake. Just recently, for instance, air pollution was cited as the cause of at least two major air collisions in this country in the past few years.

This has been a decade of precedent-setting action to attempt to meet these environmental and human disasters—a decade of increased commitments to clean up our air and water, to set aside new park lands and open space, to protect wilderness, to develop a unified approach to understanding and managing our environment for our own sake as well as for the future of our resources.

We have been building toward a national policy on the environment, which would recognize that government is not a referee between interests competing for our natural resources, but a trustee of environmental quality for all the people.

Such a policy, however, is as yet far from reality. Nuclear power plants are being installed across the country without, in many instances, protections which will minimize the impact of thermal heating and prevent our waters from being used as one vast heat sink. These plants are federally-licensed.

The California coastline was blackened early this year by a massive oil leakage which might well have been prevented by effective regulations or by a ban on oil drilling in that hazardous area—if government agencies had acted.

The future of not only Coho Salmon and other Great Lakes fish but of all marine creatures and other wildlife is now in grave danger from high pesticide concentrations—a development which might well have been prevented had government agencies earlier recognized the threat of persistent, toxic pesticides such as DDT, and acted accordingly.

Too often, in fact, our public policies have simply seconded the philosophy that under the guise of "progress" and profit, anything goes.

Such policies are rooted in the very bigness and complexity of our government, where one hand doesn't know what the other is doing, or can't find out, or where the public concern and intent sometimes finds it difficult to make its way through the gigantic maze of bureaus and agencies.

If a national policy is to become more deed than rhetoric, we must meet the challenge of making government work for, rather than against, the very goals we set.

The legislation now before this committee contains a number of provisions which would represent a significant step in that direction.

For instance, the proposals to create a Presidential Council on Environmental Quality, or a similar council, would put at the highest level of government a responsibility for developing a long range view of the nation's environmental concerns and problems.

Under the proposals, the council would be composed of outstanding environmental specialists appointed by the President with the advice and consent of the Senate. The Council would be charged with developing comprehensive national policies and programs to improve and maintain the quality of our environment, would appraise the many federal programs which have an effect on the environment, and would prepare each year for the President a report with the council's findings and recommendations.

It is highly important, I believe, that the Council be established at this high level of government. Only in this way can it effectively assist the President in providing leadership for the nation in meeting our environmental problems and needs.

There has been suggested the alternative of creating an interdepartmental council, composed of cabinet officers, to achieve similar ends, and it is reported that the present Administration will propose exactly this approach.

I believe such a council would be doomed to failure.

For one thing, there is very little in the history of such councils that has provided an encouraging experience. Too often, responsibility is delegated by a cabinet member to a department official, and thereafter, there is only limited involvement on the part of the Secretary.

Further, what we typically have seen in interdepartmental councils, is a striving for the lowest common denominator of consensus, a predictable result when we see each department trying to protect its own point of view.

Consensus and the limited attention of departments and secretaries concerned with a whole range of other responsibilities will not do.

The fact is, we long ago recognized the necessity of assigning experts at the highest level to devote their full-time attention to the nation's economic concerns, by establishing the Council of Economic Advisors. I believe it is clear that environmental matters urgently require the same high level, full-time

attention. The time has come to declare that Gross National Product is not alone an adequate measure of "progress."

Further, with a Presidential Council, the President will be able to tap the resources of all the federal departments and initiate the necessary research and environmental considerations throughout the executive branch that will formulate and carry out a national policy on the environment.

Finally, only with an independent Council that holds the respect of the political and scientific community of this nation will the President achieve the overview and foresight to deal adequately with this critically important issue.

In retrospect, such a council would have anticipated the need to protect the nation against the environmental impact of nuclear power generating plants, an issue that has been understood and debated for several years without results because no one body in the government had been given the responsibility to focus attention and take action.

A Presidential Council could have foreseen the dangers of oil exploitation on the Continental Shelf and made recommendations whose adoption would have prevented the Santa Barbara oil blowout.

Such a Council would have recognized long ago that federal regulations and research with regard to dangers from toxic, persistent pesticides were inadequate and urgently in need of updating, something scientists have been saying for years.

Secondly, proposals before the committee would give the President the responsibility of making regular reports to the Congress on the condition of our environment, on its effects on the social, economic, and other requirements of the nation, and with the President's recommendations on the implementation of a national policy on the environment.

The annual report would be an important measuring stick, and would also provide a focus for our future needs.

Next, there are proposals to create an environmental overview mechanism in Congress as well. My bill, S. 1752, proposes the method of creating a Joint Congressional Committee on Environmental Quality, which would provide Congress with a new tool to conduct a broad-ranging and continuing program of assessment and recommendation on environmental concerns.

The committee would, for instance, make a comprehensive study of the President's annual report on the environment and report its finding to the appropriate committees of Congress. The committee would not have authority to receive or report legislative measures.

I believe such a committee would be an important aid to Congress in translating into effective action the increasing nationwide concern on the part of millions of citizens over our degraded environment.

Finally, S. 1752 and S. 1085 give the Secretary of the Interior new responsibilities and authorities to carry on urgently needed scientific research to increase our understanding on the delicate balance of ecological systems in nature, and of man's impact on this balance.

The Secretary would be authorized as well to establish a clearinghouse for information on ecological problems and studies, to disseminate information about progress in the field and to establish a program in which representative natural environments on federal lands can be set aside for scientific study and for preservation.

In spite of the great and increasing body of knowledge and the sophisticated technology which man has developed, we are still woefully short of an understanding of our relationship to this planet.

In conclusion, let me say that I am heartened by the increasing interest and commitment on the part of Congress in protecting and restoring the quality of the environment. With passage of legislation to establish a Presidential Council on Environmental Quality, and a Joint Congressional Committee on Environmental Quality, and to get underway a large scale scientific investigation of our relation to our environment, we will be striking out in the direction that is necessary to truly establish a national policy on the environment.

The CHAIRMAN. Are there any comments from other committee members?

Senator ALLOTT. May I make just a comment?

The CHAIRMAN. Yes, Senator Allott.

**STATEMENT OF HON. GORDON ALLOTT, A U.S. SENATOR FROM THE
STATE OF COLORADO**

Senator ALLOTT. Mr. Chairman, I agree with the concern about the environmental situation, and I think I am as aware of it as any of my colleagues, and I am not wedded, I want to say this frankly, to any particular method of getting at the problem.

I note the Senator from Wisconsin's remarks about the best way to do it. I express my concern and have expressed my concern in this committee many times during the past few years about the creation of agencies composed of people who had many, many responsibilities and I think whether you have a council or whether you have such an agency, the real problem is to get people to devote time to it. During the past years this point of view has not received very much consideration, but I do want to say that I approach this thing with an entirely open mind. We need the best minds we can get on it and we need people who can devote some time to the subject. I hope that we can make progress in this committee, and after we have heard the statements of the Under Secretary of Interior and the Secretary of Interior and others, why we hopefully can arrive at a conclusion.

The CHAIRMAN. Thank you, Senator Allott.

Congressman Daddario was unable to attend today's hearing but he has sent a statement over to be placed in the record. Congressman Daddario was instrumental in convening the joint House-Senate colloquium to discuss a national policy for the environment last July.

(The statement referred to follows:)

**STATEMENT OF HON. EMILIO Q. DADDARIO, A U.S. REPRESENTATIVE IN CONGRESS
FROM THE STATE OF CONNECTICUT**

I am pleased to submit my views on the important subject of environmental policy and its continuing development as evidenced by these hearings. Valuable contributions were made by Senator Jackson and other leaders of both Houses to the Joint-House Senate Colloquium on a National Policy for the Environment last July. Those proceedings clearly show that the Congress is determined to reconcile the conflicts of use for environmental values—the crux of the policy problem.

Environmental quality is beginning to receive the proper emphasis and weight in decision making. Means of measurement are still inadequate, but industries, municipalities, regional agencies, and individual citizens are recognizing responsibilities for going beyond obvious economics in balancing costs and benefits.

It is useful to consider this issue in three dimensions: policy, organization, and action programs.

The development of a national policy as a guide for actions at all levels is paramount. The precise words are not important but the elements of policy which are identified in the report based on the Colloquium seem to me to be worth repeating.

It is the policy of the United States that:

Environmental quality and productivity shall be considered in a worldwide context, extending in time from the present to the long-term future.

Purposeful, intelligent management to recognize and accommodate the conflicting uses of the environment shall be a national responsibility.

Information required for systematic management shall be provided in a complete and timely manner.

Education shall develop a basis of individual citizen understanding and appreciation of environmental relationships and participation in decision-making on these issues.

Science and technology shall provide management with increased options and capabilities for enhanced productivity and constructive use of the environment.

As leaders of all branches of government and the private sector refine and express these key ideas, a national ethic for maintaining environmental quality along with productivity will evolve. This ethic—a sense of the right thing to do—is essential because the short term, localized, dollar gain will always be more tempting than the long term, subtle values.

Organization is important in both the Legislative and Executive branches because environmental matters cross the traditional lines of authority of departments, agencies, and committees. The evidence and testimony of these hearings regarding the coordination, planning, and priorities functions in the Executive branch will be most helpful. I will confine my remarks to the point that, regardless of what is accomplished downtown, Capitol Hill must improve its organizational approach.

One important capability for the Congress is to gather information for decision which is timely, and interpreted for the legislative process. We must assure ourselves that the hard questions are asked of those who promote technological change and progress as well as those who warn of unwanted consequences. Adequate assessment of man-produced changes in the environment will aid all Congressional Committees when these issues come under their jurisdictions.

I have previously proposed a Technology Assessment Board, reporting to the Congress, as a means for assisting and improving the legislative decisions of all Committees. Environmental effects would be a principal concern of such a Technology Assessment Board. Since 1967, our Subcommittee on Science, Research, and Development has studied the TAB concept, to receive advice on its scope and functions, and to perfect a plan for its implementation in legislation.

There is strong support for placing this capability under the Congress. Some of the important reasons are:

1. Questions of concern to the Congress must be assessed to meet the legislative schedule, i.e., before decisions are made.
2. The Congress must be in a position to continuously challenge the Executive branch as to the consequences of its programs.
3. It is important that assessment proceed in an open forum stimulating wide public discussion. The Congress can provide such an environment.
4. The widest possible base of information and opinion must be accessible to assessment projects and the Congress could command this knowledge.
5. The Congress would be more attentive to assessment results if they were presented via a Congressionally chartered organization.
6. The Congress must be convinced that the experts have asked one another the right questions.
7. The political decisions affecting the future of technology rest with the Congress.
8. The Congress is sensitive and rapidly responsive to the people and is immediately accountable to the electorate.
9. The feeling that applied science is under control (through Congressionally monitored assessments) will restore public confidence necessary to a risk-taking progressive society.
10. The needs of the Congress for assessment results would assure that the necessary funds for these activities would be provided.

It seems to me that with the information and analytical resources of a Technology Assessment Board for the Congress, environmental management by the Executive branch would be continually challenged to a high level of performance. Programs and reports generated by coordinating and planning agencies would have a logical point of reception and digestion in the Legislative branch. Without extensive reorganization (which will never come easily or rapidly in the Congress) each Committee could use the services of the TAB and draw upon a common bank of high quality information. A strong emphasis on the advantage of and necessity for early warning is implied in my concept of the TAB.

Finally, action programs will begin to conform to policy and organizational changes. The complexities of ecological relationships mean that few, if any, manipulations of the environment can be taken independently. Federal programs intersect private and local government plans. A systems approach is indicated but the day-to-day activities of a technology-based economy cannot be disrupted or abruptly redirected. Again, in my view, the solution is an increased knowledge of ecology and increased technological options for managing the environment.

The International Biological Program must be strongly supported. The data from its constituent projects are directly applicable to our most pressing en-

vironmental problems—pollution, food production and population. The trained manpower resulting from the IBP studies are needed by industry and government. A resolution of Congressional support has been introduced this session in both Houses. The IBP is actually just the start of a sustained and intensive scientific study to improve our basis for political and administrative judgments in environmental affairs. It will enable action programs to be carried out in harmony with ecological principles.

Thus, I believe these hearings mark another milestone in the development of a Federal position to assure environmental quality. The participation of Representatives and Senators from specialized committees in these overview proceedings demonstrates that the Congress is continuing its leadership role in policy, organization, and action programs.

The CHAIRMAN. The committee has received statements from Congressman Reuss of Wisconsin and Congressman Bennett of Florida, for inclusion in the hearing record. Without objection they will be included at this point.

(The statements referred to follow:)

STATEMENT OF HON. HENRY S. REUSS, A U.S. REPRESENTATIVE IN CONGRESS FROM
THE STATE OF WISCONSIN

The Council on Environmental Quality which S. 1075 would set up could do much to alleviate the serious lack of policy review, oversight, and effective coordination which now impedes our conservation effort.

Our right hand literally does not know what our left hand is doing. Experts there are aplenty. But there is no one to bring together the thinking of the forest experts, the wildlife experts, the soil experts, the water and wetland experts, the air pollution experts, the population experts.

The executive branch alone includes a seemingly infinite number of departments, bureaus, offices, councils, and administrations which lay claim to some aspect of our conservation program.

Federal agencies work at cross purposes. While the Department of Agriculture pays farmers to drain their wetlands, the Department of Interior pays farmers to reflood their wetlands.

Too often reports are written calling our attention to an unobserved crisis, and then gather dust on the shelves because no one follows through—as with the alarming report on the Nation's forests 7 years ago.

Too often a myriad of officials work on the same conservation problem—with no one doing the coordinating.

Too often our regions wither and die because we pay insufficient attention to their ecology and their economy—as with the gutted coal mines of Appalachia, the cutover forests of the northern Great Lakes area, the overcultivated Dust Bowl of the Great Plains.

Congress, not to be outdone, has distributed its share of the environmental effort among its Committees on Interior, Agriculture, Science and Astronautics, Commerce, Government Operations, Defense, and Public Works.

The problem of fragmentation is not confined to conservation and environmental studies. There used to be similar diffusion and lack of planning in the fields of economics and atomic energy.

Then, a generation ago, Congress set up the three-man Council of Economic Advisers and the five-man Atomic Energy Commission. Like their congressional counterparts—the Joint Committees on Economics and Atomic Energy—the groups serve the essential function of pulling together total effort in their fields.

The problems we face in organizing our environmental quality effort today are very similar to those we confronted 20 years ago in determining the responsibilities for the development and control of the economy and of atomic energy.

If we are going to make progress in improving the quality of our environment, we must unify our total effort. We must set up a permanent mechanism to study and plan and guide us in our approach to our resources of soil, water, air, wildlife, forests, and open space.

The Council on Environmental Quality could serve as such a mechanism. However, I would make two suggestions.

The first is that it might be wise to make the Council somewhat more independent of the President. In S. 1075, the Council members serve at the pleasure of the President. It is my feeling, however, that there might be times in which

the members of the Council should be insulated from Presidential pressure so they can speak up if they feel they must—if, for example, they believe the President is not following through on the fight against water pollution. I would suggest, therefore, that the Council members be given a fixed term. I have introduced H.R. 3114, a bill similar to S. 1075, which establishes a Council of Conservation Advisers whose members are appointed for staggered 6-year terms.

My second suggestion is that there should be some effort to pull together the presently fragmented conservation effort in the Congress. As I indicated earlier, there are some six or seven committees in both the Senate and the House that deal with different aspects of conservation and the environment.

The coordinating mechanism could be a Joint Senate-House Conservation Committee, modeled after the Joint Economic Committee. It would be composed of leading conservationists in the Congress, eight from each body. It would review the annual environmental quality report submitted to Congress under S. 1075, and recommend to the appropriate legislative committees of the House and Senate necessary action to achieve environmental goals. As you might suspect, my bill also contains a provision for a Joint Conservation Committee.

I thank the Committee for this opportunity to present my views, which parallel in many respects those of the Committee's distinguished Chairman.

STATEMENT OF HON. CHARLES E. BENNETT, A U.S. REPRESENTATIVE IN CONGRESS
FROM THE STATE OF FLORIDA

Mr. Chairman, I appreciate the opportunity to present a statement to your Committee, considering legislation to authorize the Secretary of the Interior to conduct a survey of our natural environment which will lead to a more beautiful and enjoyable place in which to live.

I have a bill, H.R. 952, pending in the House Committee on Interior and Insular Affairs, which is similar to that legislation before your Committee. I endorse in principle the thrust of the legislation and I congratulate the Chairman and members of the Committee who are supporting this type of legislation.

Today our Nation faces a great problem which occupies much headline and radio and television time—the population explosion. The challenge confronting us is an expanding population in a static area. People are taking up all the space and what is left of our open areas, particularly the naturally attractive areas. What we need today is planning for this dilemma of too many people in not enough space. I like what Don Marquis wrote: "If the world were not so full of people, and most of them did not have to work so hard, there would be more time for them to get out and lie on the grass, and there would be more grass for them to lie on."

What we are considering today is where the grass is, and can we save some for our future generations to lie on. In order to do this we need planning. The legislation before the Committee today would give the Secretary of the Interior the authority to make an extensive survey to see what is left of our natural environment and if there is some way of keeping plants and animals around for our children to enjoy.

I have lived in Florida for over 50 years and in my state we have a prime example of what can happen if wide areas of outdoors are not protected by public spirited people or the local, State, or Federal Governments. In Florida, ninth largest State in the Nation and the fastest growing large state in the country percentage-wise, all lands not protected by conservation-minded people are destined to become fifty-foot lots. In the last decade Florida has grown in population by 55 percent, and, of course, our land area has remained the same. There are not many wide open, interesting outdoor spots left in my State, and that is the important reason why I have been a prime sponsor of the Wilderness Preservation Act and the Land and Water Conservation Act, the landmark conservation bills passed in the 88th Congress, and earlier legislation like the Key Deer Refuge. In the 90th Congress the Scenic Rivers and National Trails System legislation were enacted into law. Two important projects in our home state of Florida were included in these measures.

The Suwannee River was put in a study category in the Scenic Rivers Bill and the San Mateo-St. Augustine Road, the first road in America, was put in a study category in the National Trails Systems Bill. I was very pleased to support and sponsor the Suwannee River and the San Mateo-St. Augustine provisions in the House of Representatives. In recent years the Congress has done an outstanding job in the field of conservation. Since 1963, 278 conservation measures with

over \$12 billion in appropriations have been approved. Some 14 million acres in 33 national parks have been set aside by Congress since the Yellowstone National Park in Wyoming, Montana, and Idaho was established as the first national park in 1872. We have also made progress in the field of air and water pollution and will strengthen these bills in this and future Congresses I believe.

I have seen our beautiful outdoor areas dwindle and turned into asphalt highways and acres of shopping centers. These things are necessary to take care of our expanding population, but the planning and the thought behind them has been dreadful.

Vice Admiral H. G. Rickover (U.S. Navy) has outlined our responsibility in this: “. . . government has as much a duty to protect the land, the air, the water, the natural environment of man against such (technological) damage as it has to protect the country against foreign enemies and the individual against criminals * * *”

Most of the open land in our country today is where the people aren't. We have an obligation to protect what plant and animal life and natural environment we have left in this country. We can do that by adopting this legislation, which will document and define changes in the natural environment, maintain an inventory of projects and developments in our land, and establish a system of collecting and receiving information and data on ecological research. When we have started this survey we will have taken a giant step forward to preserve for generations to come what is left of our outdoors.

The CHAIRMAN. The Chair would like to suggest that all the Government witnesses come to the table together. I think this would be more appropriate than appearing individually. Dr. Lee DuBridge, who is the President's Science Adviser; Secretary of Interior Walter J. Hickel; the Assistant Secretary for Urban Systems and Environment, Department of Transportation, Mr. Braman; and Under Secretary Train, of the Department of the Interior.

The Chair would like to suggest that Dr. Lee DuBridge make the opening statement. Then we will call on Secretary Hickel, and then Assistant Secretary for Urban Systems and Environment, Mr. Braman. Secretary Train, did you wish to follow Secretary Hickel?

Mr. TRAIN. I do not have a prepared statement, sir.

The CHAIRMAN. All right, fine. We will do it in that order and then we can ask questions of the various witnesses. I think this will facilitate the presentation of the administration's position.

We are very honored to have Dr. Lee DuBridge, a distinguished educator and distinguished scientists, with us. I want to commend you, Dr. DuBridge, for the leadership you have taken in connection with the pending matter, and I want to commend the President, too, for his interest. I think there is a general consensus that something obviously needs to be done in this area. My own view is that one of the key problems will be the restructuring of government to try to cope with environmental problems. Like science, the environment is a concern of every department of government, and environmental problems are found in every department of the government. There is, I believe, a very real need for a strong declaration of congressional policy on the environment so that the executive branch will know its charter and can have a stronger arm.

I want to say, speaking only for myself as chairman, that I have an open mind about the form and nature of the policy. I certainly welcome an exchange of views this morning. I am not set in concrete, and I trust the executive branch is not. I would hope that out of these hearings we can come to some kind of agreement on how to proceed. We are delighted to have you with us. I understand you have some informal comments which you may wish to supplement later, and you

may do so, and that is true of all the witnesses. We are not trying to be technical here this morning. We just want to get as much information as we can before the committee so that we can make some sensible legislative decisions, Dr. DuBridge.

STATEMENT OF DR. LEE A. DuBRIDGE, PRESIDENT'S SCIENCE ADVISER

Dr. DuBRIDGE. Thank you, Mr. Chairman, members of the committee.

The present administration is delighted with the interest of this committee and with the Congress generally in this environmental problem. The statement you read from Professor Caldwell, Mr. Chairman, certainly pinpoints the problem very clearly, and Senator Nelson's remarks are in the same flavor.

I think we have all realized that the problem of our environment in a very difficult one. The trouble is that it is hard to define exactly what environment means, because everything we live with is of course our environment, everything outside of our own bodies is our environment, whether it is this beautiful room, this beautiful building, the streets we walk on, the hikes we take in the woods, the automobiles we ride in, the air we breathe, the water we fish in and drink; everything is environment, and to improve everything in our environment is obviously, therefore, a very difficult task.

There is also an overriding fact of life that we must remember, that ever since man appeared on this earth he has been an agent for deteriorating the environment in one way or another by virtue of the very fact that he has to live and eat and keep warm, he does something to his environment. If he grows his crops, he must cut down trees to make room for his fields. As he plows his fields, he makes more easy the erosion of the dirt, the soil in those fields through wind and water. As he deposits fertilizer on his fields, he runs the danger of contaminating the water supplies which irrigate his fields and run off into the rivers.

As industrial man has developed in the last century, his interference with the environment, of course, has accelerated. As man has produced enormous quantities of material for his own comfort and health and welfare, he has also produced more waste products.

It is inevitable when you generate power, for example, that you must generate heat. This is a law of physics and is as inevitable as any other law of physics. Therefore, every power station that is built in this country—no matter what the source of fuel, fossil fuel or nuclear fuel—produces waste heat, and this can only be disposed of in the air or in some body of water, and therefore thermal pollution becomes an inevitable accompaniment of power generation. Every time we burn any fuel whatsoever, particularly coal and oil, we are producing compounds that go into the atmosphere, some of which are relatively harmless, like water vapor, some are only moderately of concern, like carbon dioxide; others have more serious concern like carbon monoxide, various unburned hydrocarbon products and other things like sulphur dioxides which will contaminate the atmosphere. As we accumulate a great industrial production system, we purchase as citizens the products of this industrial system, whether they be in automobiles or toasters or loaves of bread, and inevitably the things we purchase

eventually get converted into waste products of one sort or another. We buy a car and drive it for 10 years and it is a pile of junk. There is no way of avoiding the fact that a car will eventually become a pile of junk. The question is what to do with this junk.

There is no way of avoiding the fact that everything we do in an industrial society produces waste products.

The question is two-fold: first, how do we dispose of the waste in bulk, the large volume of waste products that we inevitably produce from not returnable bottles to beer cans to junk automobiles, how is this enormous amount of solid waste to be disposed of in order to produce the least impact on the environment?

Second, in what ways can this waste be treated so that it is least harmful, so that any bacterial products which will cause disease will be removed from the waste before it is discharged into the air or in the water, and how can any nonbacterial but still poisonous or harmful product such as sulphur dioxides, for example, be eliminated from the waste before, again, it is discharged into the air or into the water?

Therefore, we are dealing with an inevitable problem of waste disposal, and trying to find a way to dispose of waste, purify it, delete these poisonous products and then dispose of what remains in the most economical and the most practical way and in the way most conducive to keeping our environment beautiful.

It is not only the waste products, of course, that we are to deal with. There are all of the other activities that man engages in from mining for coal and oil and gold and copper and all of the other minerals that are essential to our life or to our industrial civilization. Not always do mining operations produce very beautiful environmental conditions. We cannot simply prohibit all mining and drilling for oil, thereby destroying our economic system. We can, however, examine more carefully how these operations shall be conducted in ways to produce the minimum possible impact on the environment. There is, unfortunately, always a matter of economics involved. I like to give a good illustration of this from my own former city of Los Angeles where, of course, the air pollution caused by the automobiles has been a serious problem for many years. Because the unburned gasoline from the automobile exhaust, when under the action of sunlight, combines with oxygen and nitrogen in the atmosphere, it produces certain products in the atmosphere that are very distasteful and possibly even harmful to health.

There is a very simple way in which to eliminate the smog problem in Los Angeles and passing a single law would do it—a law prohibiting forever the sale of gasoline. You can immediately recognize that this might have some interesting effects on the city of Los Angeles or any other city, if all vehicular traffic powered by gasoline were suddenly prohibited.

However, an even simpler law is available. This is to attach muffler control devices to automobiles to reduce the hydrocarbons. A few years ago such a device was developed by a company, presented to the State Air Pollution Control Board, examined, approved as effective, but it was rejected as a thing to be required on automobiles because it cost \$150 a car to install. If it had cost \$75 a car, the State said they would have required it.

Therefore, the elimination of smog is worth \$75 per automobile but not \$150, according to that particular body.

But this is only a very simple illustration of the fact that there are economic problems affecting our welfare, our economy whenever we try to improve the environmental situation. Even the pesticide problem.

Pesticides have saved millions and millions of dollars of crops around the world, have saved from hunger millions of people by preventing the destruction of crops by insects, has helped to wipe out certain kinds of communicable diseases that are carried by mosquitoes, flies, and other insects. And so without pesticides our health and our welfare would have been substantially less than it is today. But they also have these other effects which have been mentioned which are very real, and this means that just abolishing all pesticides will give us economic and health results that would be intolerable, and then it is a problem not of abolishing but of managing the use of pesticides and of avoiding them contaminating the air and the rivers and the seas in the maximum way possible.

Well, I mention these things, Mr. Chairman, only to indicate that this is not a simple problem and that it will require great efforts on the part of Government, private industry, State and local authorities all up and down the line if we are to cope with this enormous problem.

I do not wish to suggest that the enormity of it makes me discouraged, because, far from it, I believe it only gives us opportunities to tackle areas of this problem which can be tackled where the present technology and knowledge exists and where we need to implement what is now known by suitable government and private actions.

Now, as has already been stated by the Chairman, the President has been interested in this problem since even before the inauguration, and in one of my first meetings with him immediately after January 20 he asked me to take a look at the question of how we could best create a top level council to study environmental problems and to see by consulting with Cabinet agencies and with the heads of independent agencies and with various staff people what would be the mechanism for having a very strong and influential agency to supervise, to coordinate and to effectuate the progress that he wished to make in this Administration toward moving toward a solution of some of these problems which we have been talking about.

Now, in setting up an agency as has been suggested there are several difficult problems to be treated. It is, of course, difficult for Cabinet people to find the time to devote to all the responsibilities which come under their jurisdiction. It is difficult for the President to find enough time to give to all of the things that he has in mind. It is difficult for these individuals to be authorities on the very complex technical, scientific, political, legal, and economic problems that are involved. However, the President felt that the prime consideration involved in getting things done was to select those people that had the authority to do it, and to charge them with carrying out through their respective agencies and departments the tasks which are agreed on that need to be done.

Therefore, the President proposed the creation of a small council at Cabinet level of which he himself would be Chairman, which would consist only of a few Cabinet members plus the Vice President and which would be staffed by an adequate group of experts who would have contacts throughout the Government with all of the agencies that

are concerned with this problem, would have contacts with their staff people, their subcabinet and Cabinet level people and would try to coordinate, study, and bring together to the proposed council proposals for action, and where in the council meetings the President after thorough discussion can direct the cabinet officers present who have the authority within the field to proceed with the actions which have been recommended or to work together in the ways which have been decided upon.

Now, during the past few months I have seen this mechanism work in the Council of Urban Affairs, which also the President established after the inauguration. This Council, too, is composed of Cabinet members with the President as the active, and I assure you, a very vigorous and interested Chairman, with the Vice President occasionally in the chair, only once to my knowledge since the inauguration, but the Vice President and President are available to serve as Vice Chairman and Chairman with the cabinet officers of the various relevant departments in the urban affairs area together with the pertinent staff people of the White House headed by Pat Moynihan. This I have seen work very effectively because tasks can be assigned then and there in the meeting to the proper Cabinet officer or on a group or Committee of Cabinet officers and the things decided upon can be implemented instantly by Presidential directive on the spot.

This, therefore, is very different from a subcabinet level interagency coordinating committee in which individuals without authority, but maybe with great knowledge, get together to discuss the problems but individually have no authority to implement the solution, and therefore, it must inevitably go to a higher level. If we start at the top level, then we can set up the mechanisms below the top level in which staff and subcabinet and independent agency people will work together but knowing that the authority of the Secretaries or heads of their agencies are involved and held responsible by the President.

Therefore, the President has developed a plan in which a fairly small cabinet level Committee is to be established under his leadership and his Chairman, that there will be mechanisms provided for and which all other agencies and departments of government not involved in this Committee will be brought in as observers or participants in one way or another, that there be provided staff assistance across the government but with the Office of Science and Technology serving as a headquarters for staff help that will be required from all agencies of Government that are concerned in this problem.

Well, this, Mr. Chairman, is the idea behind the President's proposals for trying to make energetic, authoritative and effective moves for precisely the objectives that you have outlined and which we all subscribe to. But we welcome very much your interest in this problem and your suggestion about how still further strength and effectiveness can be given to the administrative actions that we hope will be taking place in this field.

Thank you very much.

The CHAIRMAN. Thank you, Dr. DuBridge. That is a very fine extemporaneous presentation. I want to—

Dr. DuBRIDGE. Extemporaneous?

The CHAIRMAN. Well, I didn't think you were reading very much—prepared and extemporaneous. You were obviously prepared because your extemporaneous remarks were as if read.

We are delighted to welcome the Secretary of Interior here this morning. I want to assure the Secretary that today's hearing will not last as long, and I do not think there will be as many questions as we had at your confirmation. We do want to extend a warm welcome to you, Mr. Secretary, and you may proceed now in your own way.

STATEMENT OF HON. WALTER J. HICKEL, SECRETARY OF THE INTERIOR; ACCOMPANIED BY RUSSELL TRAIN, UNDER SECRETARY OF THE INTERIOR

Mr. HICKEL. Thank you, Mr. Chairman, members of the committee. Likewise, I want to thank all those for the fine statement and yours, Dr. DuBridge. And I likewise am glad to make my second appearance here and hope that it does not last quite as long. I know it will be just as fruitful and just as interesting.

More and more the public, government, and industry are placing greater emphasis on environmental needs in carrying out programs and projects which affect the environment—whether these involve regional planning, pollution, fish and wildlife, education, or population, among others. Indeed, within the Department of the Interior we are constantly endeavoring to bring to bear more knowledge and understanding of the impact which our activities have on the quality of the human environment. We endorse without hesitation the principle of bringing environmental criteria more effectively into the decision-making process of the Federal Government.

We know that every modifications, sometimes beneficial, often adverse, and too often unforeseen. Natural systems and functions are altered with potentially serious effects on the biological health of the environment. Man, indeed, does possess today the power to destroy himself.

None of this is to say that we should not undertake actions which modify the environment. We must, however, provide methods to understand and predict the results and implications of our actions. Such knowledge is essential to intelligent planning, to the setting of guidelines for the future.

The President, as you have just heard, has announced his intention to establish a new Environmental Quality Council. While the details of the Council's role have not yet been announced, its broad mandate can be expected to reach out into every Federal activity and require that such activity take adequate account of environmental effects. For the first time this Government has a means for developing and coordinating a comprehensive Federal effort directed to meeting environmental problems.

It is our belief that the proposed new Environmental Quality Council makes unnecessary the kind of Council proposed in S. 1075. The new Council will constitute an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, I am confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

S. 1075, as well as other bills before the committee, authorizes the Department of the Interior to conduct a variety of ecological studies and activities. The Department would, of course, welcome an expanded

capability in this area. However, to be effective, the very broad authority contained in the bill would have to be supported by substantial additional staff and funding.

The bills in question would make the Department of the Interior the focal point for ecological investigation and reporting within the Federal Government. Yet there are a number of Federal agencies with important environmental responsibilities. The bills leave entirely unclear the manner in which Interior would exercise its ecological functions in relation to the responsibilities of these other agencies. We believe that the new Environmental Quality Council proposed by the President will be especially well suited to developing better coordination and clearer designations of environmental responsibility among the many agencies involved. It is our recommendation that legislation such as that contained in title I of S. 1075 not be enacted until the new council has had full opportunity to address itself to this need.

Mr. Chairman, I mentioned earlier in this statement the concern of the Department of the Interior that environmental values be built more effectively into the decisionmaking process. I wish to take this opportunity to announce one important new effort along these lines.

In August 1968, oil reserves of 5 to 10 billion barrels were discovered at Prudhoe Bay in Alaska. The petroleum industry has predicted that reserves totaling 100 to 300 billion barrels will be found in Alaska and the Canadian Arctic. In comparison, over the last 110 years, only 118 billion barrels of oil have been discovered in the entire North American continent.

This discovery poses a great challenge to this country's ability to capture this needed resource while at the same time protecting to the greatest extent possible the fragile Arctic environment from the processes of exploitation. The Arctic environment, particularly the tundra, does not have the resiliency to withstand unplanned development. It has a very limited capacity to recover from environmental damage. Track vehicles leave scars that last for years.

Construction projects, such as large pipelines, if improperly planned and constructed can disrupt completely the migratory cycle of major animal populations, such as that of the caribou. The uncontrolled taking of gravel, already a scarce commodity in the Arctic, from streambeds for road construction, airstrips, camps, pipelines, and other facilities, can destroy the spawning beds for salmon and char which provide an important food supply for native Alaskans. It can also lead to siltation and stream pollution.

The extremely cold, dry climate aggravates and preserves man-made pollution. Careful planning and strict regulation are essential in the management of solid wastes.

The most important single problem concerns transportation facilities. The frigid climate and attendant ice fog restrict air travel and require the use of surface transportation. If private interests are free to locate roads, air strips, and pipelines wherever they desire, the North Country will be ruined. Such facilities must be planned with care. Their location should be fixed, their numbers limited.

There is little doubt that a major ecological research project for this area is required. Man-made disturbances can easily damage, often

permanently, the natural functioning of the tundra ecosystem. We need far more knowledge of these effects than we presently possess.

We often consider much of this North Country a preserved wilderness, but in fact much of it is in jeopardy. Already over significant areas of the North Country wilderness values have vanished forever. We must identify now those areas where development should be limited in the future, and we must identify those areas that should remain as wilderness. The rapid construction of surface transportation systems following oil discoveries do not permit us to delay this task.

I have touched on only a small portion of the problems created by the extensive development that is sure to take place within the near future. The discovered reserves of oil are immense and are of great significance in assisting this Nation to meet its fuel and energy requirements for the future.

Development is proceeding at a rapid rate. We cannot expect the petroleum industry to sit back and wait. We in the Federal Government have an obligation as owner and trustee of the public lands to insist that this development give the maximum possible protection to environmental values.

I am, therefore, appointing today a Departmental Task Force whose immediate responsibility will be to recommend guidelines for development of the North Slope. Among the matters which the Task Force will be considering are the strengthening of our own Department's regulations. We cannot rely fully on voluntary compliance and, as trustees of the public domain, we must be able to provide surveillance of development operations on the ground.

At the same time, we wish to enlist the cooperation of the petroleum industry, and will be seeking industry representatives to work closely with our Task Force.

We will be working closely with the government of the State of Alaska. Finally, I will seek the participation of other agencies of the Federal Government, particularly the Department of Transportation, in this effort.

The group which I am appointing today is made up of the Under Secretary, The Directors of the Bureau of Sport Fisheries and Wildlife, Commercial Fisheries, Land Management, Geological Survey, the Administrator of the Federal Water Pollution Control Administration, the Commissioner of Indian Affairs, and the Science Advisor to the Secretary.

Development of our natural resources as commodities must protect other resource values. I am convinced that conservation and development are compatible. They should go hand in hand. To accomplish this goal, we must build environmental values into the development process from the beginning. It is essential that Government take the lead. We have no more urgent task. The North Slope development presents a major opportunity and challenge.

There are other challenges to which we must address ourselves, such as the Everglades National Park and the whole development pattern of southern Florida as it affects its future.

In closing, Mr. Chairman, I have mentioned but a few, but I congratulate this committee for its interest and concern for the environmental needs of the Nation.

The CHAIRMAN. Thank you, Secretary Hickel, for that statement. I especially want to commend you for your comments and recommend

proposals regarding the development of the North Slope in Alaska. I think the task force concept is timely and I think very, very important in dealing with the environmental problems we face in the Arctic area of Alaska.

The Chair is delighted to welcome to the committee Mayor Braman, who served with honor and distinction as mayor of the city of Seattle, and who was sworn in yesterday as Assistant Secretary for Urban Systems and Environment, Department of Transportation. He was delayed in assuming this position because he had a little skiing accident in the Cascades. We have a very vigorous people in the Northwest, and I know that he is going about his important task with great vigor, and of even greater importance, intelligence and good judgment. This is Secretary Braman's first appearance since being sworn in before the Congress in his new capacity as Assistant Secretary, Department of Transportation.

So we are delighted to extend to you, Mayor Braman, a very warm welcome on behalf of the committee.

STATEMENT OF HON. J. D. BRAMAN, ASSISTANT SECRETARY FOR URBAN SYSTEMS AND ENVIRONMENT, DEPARTMENT OF TRANSPORTATION

Mr. BRAMAN. Thank you, Mr. Chairman, and gentlemen of the committee. It is a pleasure to appear before you representing the Department of Transportation for the first time, and I think I must reemphasize what the chairman said, that is a new activity within the Department, not necessarily a new interest by any means, but a new attempt to better organize the capacities of the Department to cope with this very, very important and very serious problem which we all face. I think that perhaps the reason that the Department of Transportation was asked to have a representative here before your committee was because within the purview of the Department of Transportation has lain in the past and will continue to lie in the future many of the activities that, at least, are most apparent to the people of the country in the field of environmental impact.

I am sure that I could tell you that having recently come from the field, from one city and one region, but more or less having had opportunities to serve in the National League of Cities and U.S. Conference of Mayors to represent a viewpoint which I am sure is shared in by every metropolitan region in the United States, and I am sure that to these people who inhabit these areas and who have had a growing concern, though in most instances it is not a deep knowledge perhaps of scientific implications as has been outlined by Dr. DuBridge as to what might happen to life itself in some of the areas of which we are destroying our environment, it is concerned with the things that they see about them in their daily lives. And in this area, I think, transportation and the activities of transportation organizations have been one of those which they have observed and which has created perhaps as much controversy and concern as any other area of the State and Federal operations. So I do appreciate this opportunity to be here.

As has been said by the chairman, Secretary Volpe has a very deep concern in finding ways in which we can in some manner rationalize

the things that must be done in the field of transportation with the best possible program for lessening their adverse impact. With this in mind, he did restructure his secretariat in such a way as he could make available one of the Assistant Secretary slots which was then titled, Urban Systems and Environment, and this office I was asked to head. The charter of this particular office is a very broad one. We are only now beginning to get to the point where we can see the manner in which we will attack the specific problems, but certainly it is very clear that one of the things the Secretary expects from this new office is a better decimation of information and better coordination between all of the activities of the Department which go to the whole field of highways, mass transportation, aviation, railroads, and many others to the end that the utilization of all funds, local, State, and national, can produce for the people the very best system of movement possible, at the same time recognizing that in many instances the determinations will have to be changed from being based on economics alone to a consideration of the economics as tempered by the impact on the environment. And this is going to mean in many instances a much more expensive approach than we have had in the past to solving these various problems of movement.

I do think that in a sense this represents a milestone in the Department of Transportation, and I am sure that it not only is a gesture, but it is intended to be a very meaningful one.

There is some obscurity in the authority that is available to us at the present time, and I would say that we certainly welcome the high level concern that is being expressed both in the executive and in the legislative branches of our Government. Without regard to where this program eventually lies, I am sure that we can expect a great deal more progress than we have had in the past, and I certainly pledge to the members of this committee that the Department of Transportation intends to exert every resource at its command to bring about improvement in the areas of which we have some jurisdiction. Now, I might point out that the activities of the Department of Transportation are very substantive. They are not necessarily affected too much by broad, long-range developmental problems, though we are among the first to say that we recognize research in its fullest capacity. We do hope that there will be methods developed by which we can accomplish our purpose in a more acceptable manner to the people we serve, but at the same time, there are decisions that have to be made on a day-to-day basis as we move along, that have to be made in what I would term hard decisions. I do not mean decisions difficult to arrive at, but rather decisions which eventually will have to be made and which not always and probably never will fully satisfy either side of the problem, for those who favor full consideration of the environment or those who favor full consideration of getting about the job of moving people and goods.

We do intend to make our recommendations based, as I stated previously, not on economics alone, but on the manner in which we can accomplish our purpose with the least damage.

Now, in closing, as Dr. DuBridge has stated in his testimony, the problem addressed by the bills before the committee is an exceedingly complex one. Many agencies and many diverse programs are involved. This fact suggests the need for a coordinating mechanism in the

Executive Office of the President. We believe the argument for maintaining organizational flexibility is a compelling one and would recommend an administrative, rather than statutory approach at this time.

Mr. Chairman, this concludes the excerpts from my prepared statement which has been filed with your committee.

The CHAIRMAN. Thank you for your excellent extemporaneous and prepared remarks.

(The full statement referred to follows:)

STATEMENT OF J. D. BRAMAN, ASSISTANT SECRETARY FOR URBAN SYSTEMS AND ENVIRONMENT, DEPARTMENT OF TRANSPORTATION

Mr. Chairman and members of the Committee: I am J. D. Braman, the Assistant Secretary for Urban Systems and Environment in the Department of Transportation.

I appreciate this opportunity to testify on S. 1075, S. 1752, and S. 237. Each of these bills, while they differ in detail, would establish a Council in the Executive Office of the President to advise the President on national environmental issues. The concept underlying each is the preservation of the quality of our environment through understanding and coping with the forces which can adversely affect it. The concern which prompts these bills is understood and shared by the Department.

Secretary Volpe has made emphatically clear his conviction that transportation must be conceived not only in terms of efficiency in the movement of people and goods, but—more comprehensively—in terms of its relation with all our human needs. In his first public address after taking charge of the Department of Transportation, he referred to the President's determination to provide leadership which acts on the premise that transportation is totally related to welfare, education, recreation and all other aspects of life. He told the Fourth Annual International Conference on Urban Transportation in Pittsburgh last month:

"The integrated transportation network that President Nixon and you and I dream of cannot be created overnight. But a system providing channels of choice out of the ghetto to suburban factories, insuring ready access in our leisure time to the varied pleasures of the countryside, safeguarding our precious heritage of historical sites and natural beauty and saving the land from irresponsible exploitation—such a system must be started now if we are to achieve our objective within the next generation. It may even be necessary for physical survival."

To strengthen the organization of the Department of Transportation to cope with such a challenge, Secretary Volpe has established the position of Assistant Secretary for Urban Systems and Environment, to which I have been appointed. He has designated this office to be the focal point within the Department for the resolution of questions as between the various modes, such as highway, rail, buses, and air, where they are part of the urban complex. We will also assist the Secretary in guiding the Department's operations so as to maximize our potential contribution to the safeguarding and enhancement of environmental values. This includes the implementation of section 4(f) of the Department of Transportation Act, relating to the natural beauty of the countryside, public parks, recreation areas, wildlife and waterfowl refuges and historic sites. It includes other social and environmental impacts of transportation facilities: prevention of air and water pollution, of noise, of vibration and other nuisances, and of avoidable disruptions in community relations; a concern for the visual impact of works, for the preservation and enhancement of aesthetic values, and the encouragement of good design as an objective of public engineering.

Because this move to coordinate these efforts from the Office of the Secretary is new, we have much to do in establishing the policies and processes necessary to carry out the Secretary's mandate. But the important first steps—the establishment of an organization and the assignment of responsibility—have been taken.

It is apparent that a broad recognition of the impact of our way of life on the environment in which we live is an all too recent phenomenon. Clear expressions of national concern about the effects of transportation technology and transportation development are, consequently, only beginning to be fully understood and decisively implemented.

It is no exaggeration, in my opinion, to say that the formal recognition of the importance of the environment expressed in the Department of Transportation

Act represents a milestone. While creating an agency whose basic purpose is to guide and nurture the development of a safe and efficient national transportation system, the Act makes it crystal clear that this end is not to be accomplished at the cost of destroying the environment in which we live.

While the Committee is concerned with the question of environmental quality in its broadest context, a detailed review of the statutory basis for assuring compatibility between transportation programs and environmental considerations might be of interest to the Committee.

In the area of water pollution, the Department, through the Coast Guard, is involved in the enforcement of the Oil Pollution Act of 1924 and in administering and enforcing the Oil Pollution Act of 1961. The earlier Act is concerned with oil discharges in coastal waters, the latter with discharges on the open seas. Currently, of course, Congress is considering comprehensive legislation which would substantially broaden the Department's responsibilities in the area of water pollution.

As a Nation, we have become increasingly aware of the destructive intrusion that noise—including transportation noise—makes on the quality of life. With the enactment last year of Public Law 90-411, the Federal Government took an important step in the direction of eliminating unnecessary aircraft noise by requiring the establishment of noise standards for aircraft.

In a somewhat more specialized requirement relating to the Federal aid highway program, the law has for some time required that highway location decisions in urban areas be preceded by procedures by which the affected citizens might make their views known. To assure that this obligation is effectively discharged, the Federal Highway Administration in the Department has recently published a policy and procedure memorandum which clearly sets forth required procedures and provides that, for any project covered by the statute, two public hearings will have to precede final route decisions. One hearing would be devoted to general corridor selection and the second would deal with the design details of the project.

In this connection, I might also mention the 1965 highway beautification legislation. This established a program for controlling billboards and junkyards alongside Federal-aid highways, with Federal funds authorized to facilitate orderly removal. The Department has successfully concluded agreements with 21 States governing mutual responsibilities in achieving the goals of the statute.

In enacting these laws, the Congress has spoken clearly and decisively on the need to consider the interaction between our transportation system and the environment in which it functions. I would like to turn now to the specific problem of urban transportation.

We believe the existing statutory framework provides an adequate basis for assuring coordination of federally assisted transportation projects with comprehensive plans for the development of urban areas. Congress has provided, through the "701" program of the Department of Housing and Urban Development, for Federal grants to State, regional, and local planning agencies to facilitate comprehensive planning for urban development. It has further provided, in section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, for a review of proposed development projects by any areawide agency designated to perform metropolitan or regional planning. This requirement is specifically applicable to any application for a Federal loan or grant to develop a transportation facility.

In addition to these statutory requirements of general applicability, the enabling legislation establishing the various transportation programs administered by the Department of Transportation contain specific requirements to assure compatibility with comprehensive development plans. Thus, highway plans and programs are to be "formulated with due consideration to their probable effect on the future development of urban areas of more than fifty thousand population". (23 U.S.C. 134)

Prior to the Secretary's approval of an airport development project, section 9(d)(1) of the Federal Airport Act requires a finding that the project is "reasonably consistent with plans . . . for the development of the area in which the airport is located". Section 3(c) of the Urban Mass Transportation Act requires, as a condition to project approval, that the project be "essential to a program . . . for a unified or officially coordinated urban transportation system as part of the comprehensively planned development of the urban area".

Clearly, there is no lack of authority or obscurity in the objective of developing urban transportation systems to meet the broader goals of urban planning. This is not to say that there are no problems. We need to know much more

about the planning process itself, and we need to know more about the ways in which public facilities such as transportation affect urban development and how they can be used to achieve the desired environmental effects. While much remains to be done, the need is clear and progress is being made.

In addition to our efforts within the Department of Transportation, we have made considerable progress in improving coordination with other Government agencies who have an interest in our programs. The Department has entered into an agreement with the Department of Housing and Urban Development designed to provide for the coordination of planning by the two departments. We have also established particularly close working relationships with the Departments of Interior and of Health, Education, and Welfare to facilitate joint consideration of problems of mutual concern. In addition, we participate in a number of significant interagency groups and serve on other public bodies, such as the Advisory Council on Historic Preservation, the Marine Sciences Council, and the Migratory Bird Conservation Commission, through which we are kept currently abreast of developments relevant to environmental policy on a broad front.

As Dr. DuBridge stated in his testimony, the problem addressed by the bills before the Committee is an exceedingly complex one. Many agencies and many diverse programs are involved. This fact suggests the need for a coordinating mechanism in the Executive Office of the President. We believe the argument for maintaining organizational flexibility is a compelling one and would recommend an administrative, rather than a statutory approach at this time.

This concludes my prepared statement. I will be happy to answer any questions the Committee may have.

The CHAIRMAN. I think this presentation this morning has laid the groundwork for beginning to deal with the problems we face in this broad man-environment relationship area that is before the committee.

I would like to begin by asking whether there is not a need for a statutory definition of what would constitute a national policy on the environment? The bill that I introduced provides a rough statement of policy, but I am wondering if we can really proceed effectively, to start with you, Dr. DuBridge, without some kind of grant of authority in the form of a statutory declaration?

I think when one looks back on the problem of unemployment, certainly the Employment Act of 1946 was to become a milestone as a policy statement of the responsibility that the Government was to bear in this important area. It has been accepted by all administrations. It laid the groundwork, of course, for the setting up of the Council of Economic Advisers. It provided for an action-forcing process which I think is very important in government, in which the executive branch must indicate in an annual message to the Congress the current economic situation; and projections as to employment, economic growth, and so on. It became a matter of national policy. I would think that a similar statutory declaration would help to strengthen the President's hand in this area. I have no doubt about what the President's objectives are. I think they are clear. As we go into this, Dr. DuBridge, there is, I think, broad agreement on the need for a role on the part of the Federal Government. I think what we will sort of narrow the issue down to is how best to structure and restructure the Government.

If we can resolve that, we can resolve the other problems, including the need for some kind of a statutory declaration. I would like to have your comments.

Dr. DuBRIDGE. Well, Mr. Chairman, you are obviously more familiar with the processes of government and the relations between the branches of government than I am. It is certainly true as you have said

that a rapport, a feeling of understanding and mutual trust as well as mutual goals, sharing of goals, is very essential between the administrative and legislative branches of our Government; and that anything the Congress can do to support the goals of the administration in an area such as this where there is complete agreement on the nature of the goals would be, of course, extremely helpful to the administration.

I am afraid I am not competent really to indicate as to precisely how this best can be done. S. 1075 starts out by saying that it authorizes the Secretary of the Interior to conduct investigations, which is a fine thing to do, and I think the Secretary of the Interior wants this done and is doing this now and might welcome additional help in getting it done more effectively. The President's Council on the Environmental Quality, however, would make use of such research and studies and information as Interior and Transportation and other agencies would produce to bring up to the Council an action program in which we will say, gentlemen, we must do the following things, and the following Cabinet members will be responsible for implementing those things. So the President's proposal goes beyond research and studies and bringing together ideas. It includes them but it then brings it up to a place where action can be authorized and initiated.

The membership of the proposed Council in the preliminary papers which are now being processed would include the Vice President, the Secretaries of Agriculture, Commerce, HEW, Housing and Urban Development, Interior, and Transportation. This obviously is a group of Secretaries of leading Cabinet agencies that are very much concerned, each individually, but they must bring their efforts together, they must coordinate them, they must conduct coordinated studies and they must work together jointly on action programs, and here is a place where the action can take place.

Now, I think I must leave it to you gentlemen to determine how you can best support the objectives of such a Council and support its operation, its funding, its staffing and all the rest. There is one point you might consider. The staffing of such a Council is not a simple matter. At the present time, Congress has been a little chary, shall I put it mildly, about having departments or agencies loan or furnish staff to intergovernmental agencies. We are going to need staff for this Council from many agencies, and if Congress can authorize staff assignments from the various departments to assist in the work of this Council, it would be very helpful.

The CHAIRMAN. At the present time, I believe OST has only 29 professionals.

Dr. DuBRIDGE. Well, I am afraid it is even fewer than that, Mr. Chairman.

The CHAIRMAN. Well, that was before the announced budget adjustments yesterday.

Dr. DuBRIDGE. Yes. We have about 20.

The CHAIRMAN. Your present staffing situation would mean that you would probably have only one or two people to work with the Council on a full-time basis; wouldn't it?

Dr. DuBRIDGE. No, it is better than that.

The CHAIRMAN. Is it?

Dr. DuBRIDGE. The problem of the environment has been of concern to previous administrations and has been of concern to the Office of Science and Technology for a number of years. Indeed, my predecessor and his staff have worked with Interior, with HUD, with DOT, and other agencies on these problems for many years. So as a matter of fact, there are nine members of the staff that are now in office, and we are looking for 10, who have already wide experience in this area and who will be assigned to this task of supporting the work of the Council. There is one who is an ecologist, one who is an entomologist, two who are engineers and civilian technologists and interested in urban transportation type of engineering, three—a lawyer, an economist, and an engineer—who are working together on energy policy matters, and the siting of energy plants or powerplants is a very important part of this; there is one man in the field who is an expert in water resource area, and another who is an expert in the field of geophysics and oceanography.

The CHAIRMAN. But they are not working full time on environmental matters; are they?

Dr. DuBRIDGE. Well, essentially, or matters relating to environment. They are not working full time for this Council yet since it does not exist. They constitute a supporting staff which would be available to call.

In addition to that, Mr. Chairman, I should point out that the President's Science Advisory Committee, which is a group of distinguished scientists and engineers from outside the Government, is the supporting advisory agency for the Office of Science and Technology. They have had in operation for some time a panel on environmental quality with experts in science, social science and engineering and other areas, and it was this panel after a lot of very hard work that really have provided the background papers which will serve as the guidelines for the new Council when it gets underway. And they have done a superb job on that and will continue active work.

In addition to that, there exists an agency called the Federal Council for Science and Technology. This is an intergovernment agency of which I am the Chairman which consists of the top science policy officers in all agencies of Government.

In some cases, the top science policy man is the head of an agency, as in the case of the Atomic Energy Commission, the National Aeronautics and Space Administration, and the National Science Foundation. In other cases, he is an officer of the Government, like Mr. Train, who is the chief science policy man in Interior and so on. Now, FCST has also been interested in environmental problems for a number of years, and they have a special committee on environmental problems attempting to coordinate the work within the Government. So that there is within OST the external supporting advisory group, the internal supporting advisory group, and, as I say, a staff, but I hasten to add as I said before that additional staff will be needed, supplied either by new positions, or by the loan of staff from other agencies that are concerned, or the assignment of staff to the work of this Council. This will be true no matter what organization you set up. The problem of staffing is a difficult one.

The CHAIRMAN. Would you be in general agreement with the policy declaration in S. 1075? That is the beginning of the bill, the first page.

I might point out that Professor Caldwell who is an expert in this field, as you know, from the University of Indiana, feels a more explicit and broader statement of policy is perhaps needed. He has in mind a directive in certain areas relating, of course, to questions of clean air and water, and to the right of the public to esthetically pleasing surroundings.

S. 1075 is a working paper, Dr. DuBridge, and I do not want to leave the impression that it represents a final declaration. But I want to add further that if the interdepartmental council is to be effective, it has to be backed up with some kind of statutory directive from the Congress because you are dealing with equal body. I think this is going to be a real difficult problem.

In my studies over the years, in the National Security field I discovered that in interagency councils or committees there is an inevitable tendency to compromise differences. Each agency has its own conflicts of interests, and you are more apt than not to end up with the least common denominator. Maybe there is hope that this can work, but if you are going to follow this route, you almost have to include all the Federal agencies.

For example, the Atomic Energy Commission is not involved in your proposal. I would point out that at the rate at which we are going to need new nuclear powered plants, we are going to run into tremendous environmental problems. In the Pacific Northwest, we have already run into this difficulty of where to locate a plant. Someone has said—and I do not vouch for the authenticity of this; it is merely a projection—that in 20 years hence 80 percent of our water will be required for cooling nuclear plants. The Atomic Energy Commission has one of the most immediate problems in the environmental field facing any agency. But they have no statutory authority, as I understand it, to even deny a permit or a license because of environmental considerations.

In fact, the only environmental directive of any substance other than just general declarations that are included in the national parks legislation appears in the Department of Transportation Act in which Secretary Braman is involved. That was written in by the Government Operations Committee when the new Department was set up. And this is a specific directive involving the question of environment as it relates to transportation: that is, to preserve the integrity of our parks and recreational areas and try to balance these values with our highway requirements.

So first, I would like to get your comments—and I want you to understand, Dr. DuBridge, I am not suggesting that you be confined to this language or some other language, but just to the broad need for an environmental policy directive.

DR. DUBRIDGE. Yes. Well, thank you, Mr. Chairman. May I go back and mention one item which I should have mentioned in my previous comments.

In addition to the advisory and staff mechanisms that I mentioned, there is an additional one that is very important, namely the Citizens Advisory Committee on Recreation and Natural Beauty which is now headed by Laurance Rockefeller.

THE CHAIRMAN. Yes.

DR. DUBRIDGE. This will become a Citizen Advisory Committee to

the proposed new Council which would depend very highly on the very distinguished citizens on that Committee to advise the new Council.

You mentioned the question of other agencies that are involved. I agree, sir, that there are many agencies of government that are involved, and this is one of the problems. This proposed Executive order would encompass a provisions by, first, providing the Council can appoint such other individuals as it deems necessary from time to time, and secondly, by providing that any Federal agency heads which are not members of the Council may be invited to participate in the deliberations of the Council in connection with matters that come under their jurisdiction.

It is very clear that the Atomic Energy Commission has some very important matters to consider. It is not only nuclear powerplants, Mr. Chairman, that discharge heat into our water, but any powerplant by its very nature has waste heat which it must discharge either into the air or into a stream. Incidentally, they do not use up water; they simply warm it up. Now, warming up water in a stream may be harmless, but it is sometimes very harmful to the particular form of life that may be there.

My office prepared last year a report on this problem of steam power plant site selection, and what the considerations were in the selection of a powerplant, whether it is coal, oil, or nuclear, the considerations which should be brought into the licensing or the permission of a plant to locate at a particular site, as I say, whether nuclear or any other form of steam generating plant.

Now, I believe there is legislation now being developed which will give some authorization to some agency so that as powerplant sites are being selected, the environmental as well as the safety and health factors will be considered.

The CHAIRMAN. But I take it that you do support a statutory declaration of policy?

Dr. DuBRIDGE. Yes, sir.

The CHAIRMAN. Assuming, of course, that the Committee and the administration can get together on appropriate language that would strengthen your hand in dealing with these problems.

Dr. DuBRIDGE. My only comment on this policy statement, which is fine, is that I think we would add to it—you say a comprehensive and continuing program of study, review and research. I would add “action.” What we need most of all is after we have done the research, developed ideas, to get action, and the President can produce action. It is true that interagency committees represent their own interests and often they have to compromise, but since a system, a problem such as this inevitably involves all Government agencies, it cannot be done through a single agency, it cannot be done even through a new independent agency which would still have to depend upon the existing agencies. Therefore, the best thing is to get the top of the agencies and let the President crack their heads together and make sure that action ensues.

The CHAIRMAN. The Chair is going to ask the staff to get a list of all of the interdepartmental committees that are now functioning.

Dr. DuBRIDGE. It will be a very long list, sir.

The CHAIRMAN. You see this is what worries me, because on Janu-

ary 28, 1961, to read from a report of a subcommittee that I chair and still chair, it was pointed out that in the National Security area alone:

A very high percentage of committees serve no useful purpose or else performing a necessary service in the beginning they live long after their reason for existence has been ended. Mr. Avril Harriman has suggested the possibility of a committee killing outfit charged with regularly reviewing the need for the continued existence of particular committees and identifying those which merit extinction.

We suggested that the Bureau of the Budget might properly give this task higher priority.

You see, Dr. DuBridge, this is why I am deeply concerned, because my own observation is that this process, over the years, has not been very good. The effectiveness of these interdepartmental committees is highly questionable, unless there is a chairman who can make the decision. Otherwise what happens is that they all get together, they compromise and come up with the least common denominator or they come up with as many different minority views as there are representatives. I assure you there is nothing partisan about my concern. I have directed this at all administrations; it is a matter of trying to operate effectively in the executive branch.

It seems to me that in the end, after we look at all of the alternatives, you will find that there will need to be an arm for the President, in the Executive Office of the President, to give him the objective, impartial advice that he needs. I could go right down the list of agencies that are not on this Council—the Corps of Engineers and others. They are heavily involved. Their activities have a direct impact on the quality of the human environment.

Dr. DuBRIDGE. But if you have got 300 people on the Council, it would be obviously ineffective. If you get eight people, it may take action.

The CHAIRMAN. I know. But then you have the problem of the Council telling another equal Cabinet officer what ought to be done.

Dr. DuBRIDGE. The President will tell us. There are dozens of interagency committees but there are very few chaired by the President.

The CHAIRMAN. The President has the most onerous job in the world. The President is so burdened that the amount of time he can really give to this task is, I think, questionable. And I am not so sure that the President should give of his time to the extent of presiding over interdepartmental committees. I think this raises a very, very serious question.

Dr. DuBRIDGE. But this is a question of the President's own priority. In addition to the Cabinet, he has felt there are three important areas that he wanted to give his attention to: National security, foreign friendship with nations, urban affairs and environment. There are three committees, Cabinet level committees which he chairs in those three areas. These are three of his very prime concerns. Therefore, it is his choice that this is an area of such importance that he wants to give his time to it and he wants to bring this group together to get action on these very important problems. At the Cabinet meeting yesterday, more than a third of the time—with the Cabinet wives present you remember if you read the paper this morning—more than a third of the time was given to discussion with the whole Cabinet on this question of the environment and the problems and the mechanism for treat-

ing with it. It has been discussed at previous Cabinet meetings, and I am sure the President is devoted to this job and is going to give it time.

Now, after a year or two goes by, things are rolling and mechanisms have been set up for carrying on, then maybe other mechanisms can come along to carry the problem on further, and the President will not need to give his full attention to it. But to get it cranked up, it seems to me it is important to have an executive agency at high level. The agency proposed in your bill is a perfectly fine one, but there again a Council of Advisers would only be advisers and all they would do, as the present Council of Economic Advisers, they would advise the President of what action he ought to take, and, therefore, he ought to have to check with their advice and check with the agencies before he could direct the agencies to carry out his advice.

The CHAIRMAN. But at least you would have an advisory proceeding. You see, Dr. DuBridge, my point is that the advice, with all due respect, that the President would receive from the departments will be advice that will not be adverse to them. It will be compromised advice. This has been the history of the agencies. It is hard for the President to get objective advice. This is why the Bureau of the Budget plays such an important role. This is why your office plays an important role. You have science in every department of the Government, and the President really needs to be armed with information with which he can effectively deal with the Cabinet departments. He needs to be armed with impartial advice, even advice of an adversary nature which will place the options for decision before the President.

What I am concerned about, you see, is whether or not the President is going to be presented with a series of options that stem from an impartial source. This is casting no reflection on a Department, but every Cabinet officer gets pressures right from the bottom on up. They are all crowding him about protecting this, preserving that, or not doing this. It is natural. It is human nature.

Dr. DuBRIDGE. Well, that is the reason he is provided that the Executive Secretariat of the committee shall be based in his Office, in the Executive Office of the President, and it will be the job of the Executive Secretariat which my office will be the headquarters of to do precisely what you say, sir. And I agree completely that one must have independent evaluations of the activities and responsibilities of the various departments, that it must have the best outside advice that one can get, and operate out of the President's Office to bring the best adversary position, as you put it, to the attention of the Council. I certainly agree with what you said and that is the mechanism that goes with it.

The CHAIRMAN. Well, I am sure we can find some resolution to this problem. I have just one more question and then I shall defer to my colleagues. Secretary Hickel, on page six at the bottom of the page, the last two paragraphs of your statement, you mention the appointment of a departmental task force, whose immediate responsibility—I am quoting—"will be to recommend guidelines for the development of the North slope." I think this is excellent. Now, in the next paragraph that follows, and I quote, "at the same time, we wish to enlist the cooperation of the petroleum industry, and will be seeking industry representatives to work closely with our task force." I am wondering if it would not be a good idea to include some of the conservation groups in this task force.

I might say that as chairman of the committee I have been considering for some time convening an informal conference that could be worked out with the industry, the Department, conservation organizations, and people from Alaska: a broad-based group, to sit down and go over some of the problems in advance so that we could anticipate future problems. I would just like to make the suggestion that included in the task force might be appropriate representatives from the field of conservation.

Secretary HICKEL. Thank you, Mr. Chairman. Yes, in fact, we will be seeking a lot of outside support. And basically what I was going to try to come up with was something like our old North Commission which we had in Alaska on which we had many prominent people, men like General Lindburg, who was advisor to that committee and who I will be meeting at the end of this month.

But the most important thing is that we get industry to see the picture as we see it and that there are ways that they can do what has to be done and yet not disturb what we think should not be disturbed. And I think within our department, the men that I have talked to, including agency heads, are fully aware of what we are trying to do, which is not allow this thing to go helter skelter but to have some sort of a plan.

And I might say this, Mr. Chairman, that I have had a difficult time even before I was Secretary, when I was Governor, trying to get men in the Federal Government to understand the unique geographical location and the unique climatic problems that we have on the North Slope, and for this reason we are starting within our department and proceeding from there.

The CHAIRMAN. Well, I hope that when you get into that you will try to get some of the conservation groups involved because they have expressed, as you know, a deep concern about the impact of the pipeline and other industrial activities in this area. And I am sure you will do that.

Secretary HICKEL. We will. I would like to mention one more thing, Mr. Chairman. The urgency of the Federal Government agencies collectively to take some action in a hurry because what is happening up there now is going to set a pattern for many years to come, and I think these guidelines have to come not in 2 years or not even 1 year. We are going to try to expedite something immediately.

The CHAIRMAN. Well, I commend you for anticipating this problem. I think that one of the most important procedures that needs to be followed in dealing with the problems of the environment, is to initiate research and to exercise that degree of judgment that tells us that unless something is done now, we are going to have greater problems in the future.

Secretary HICKEL. Yes.

The CHAIRMAN. And this does present a tremendous challenge. I am delighted that this task force has gone forward, and that appropriate participation will be had by people from the conservation area, conservation groups, and so on.

Senator Tydings was scheduled earlier. Did you wish to make your statement, Senator Tydings?

Senator TYDINGS. Whichever is convenient to the committee. I can very well wait until after Mr. Hickel and the others finish.

The CHAIRMAN. I think if it is going to take a little while. We have all the cabinet people here and the President's representative. I think we would like to finish this morning.

Senator TYDINGS. Do you want me to come back?

The CHAIRMAN. Could you come back at 2 o'clock this afternoon when we have finished the Government's witnesses? We are right in the questioning process now.

Senator TYDINGS. All right.

The CHAIRMAN. Would that be convenient—anytime this afternoon?

Senator TYDINGS. All right.

The CHAIRMAN. Anytime this afternoon?

Senator TYDINGS. I will come back at 2 o'clock.

The CHAIRMAN. Would that be appropriate?

Senator TYDINGS. Fine.

The CHAIRMAN. We deeply appreciate your doing this so that we can complete the testimony from the witnesses.

Thank you.

Senator Allott?

Senator ALLOTT. Thank you, Mr. Chairman. I do not think we have a basic question for determination in this matter. Everybody is concerned about the quality of our environment and you do not have to go far to meet some aspect of it.

It seems to me that the basic problem with which we are involved is not a determination of whether there is a problem, nor are we even concerned at the moment with, what we do with specific problems. Basically, we are concerned with the best method of coordinating and making effective the various activities of the Government to solve the environmental problems, about which we are all concerned. Now, the Chairman has already pointed out that there are many agencies involved in this matter, and he did not even begin to exhaust the list. As I took my high school physics—Dr. DuBridge, and you may not believe it, but I did take it—I recall something to the effect that you cannot destroy matter; you can only convert it. Is this roughly the truth?

Dr. DuBRIDGE. Yes, sir—if by matter you include energy, of course.

Senator ALLOTT. Matter and energy. And therefore in the problem of pesticides, for example, you cannot destroy a pesticide. It only is converted by deterioration or photosynthesis or some other method to other forms of matter.

You pointed out, and I think it is true—at least I am satisfied that this Senator owes his own good health after 2 years in the South Pacific to the prolific use of DDT—that literally hundreds of thousands of our men who have served in those areas owe their health to the use of what was then and still is a very efficacious pesticide but which has turned up side effects which are not so desirable. For example, it would be easy in an emotional way to say we do away with all pesticides, including DDT. If we did this we would also destroy the fantastic productive capability of our American agriculture.

Dr. DuBRIDGE. That is correct.

Senator ALLOTT. This would be a necessary fallout, if you just did away with them. So this raises the question, do you find more efficacious means of killing bugs and blights and weevils, and so forth, or how do you do it?

You were facetious, perhaps, in your remark about passing a law to stop selling gasoline. Now, no one has ever mentioned this before that I can recall, but it is possible without greatly inconveniencing the American public to cut down on these gas eating monsters of 380 and 400 and 425 and 440 cubic inch displacement. Everyone could get adequate transportation with a cubic displacement in the automobiles of at least half that size. And yet no one has suggested this as a means of cutting the auto pollution in half. It is one thing that could be done. Which brings me to the point that, if we are going to really solve the environmental problem, which is basically a problem of the population growth which in turn has produced the industrial expansion, many of us are going to have to modify in some respect what we have long considered to be our manner of life.

I am particularly glad to see Secretary Braman here because he represents a field and is from a department in which I am greatly interested. Mr. Secretary, I am not wrong, am I, in saying that if we were to have an adequate subway system in the District of Columbia, we could move 40,000 an hour on a single line where we are moving 25,000 on a single street? Are these figures way out of line?

Secretary BRAMAN. I would not be able to testify to the exact figures in the District of Columbia, but they are quite in line with other figures that I have knowledge of in the past, yes.

Senator ALLOTT. So that it seems to me that we have a lot of thinking to do about this. The fourth thing about it is that no one here is in conflict about the basic problem we have.

I would like to say that in listening to you gentlemen—and I want to give my colleagues an opportunity to express themselves, and also to ask questions—the one thing that appeals to me about your approach, Dr. DuBridge, is the argument of having heads of departments on the council who can implement and initiate policies.

I will not cast a blight on any of the dozens of interdepartmental committees and joint committees that exist. I belong to one joint committee which meets at least once every year, not much more often. But, there is no question in my mind that through Parkinson's Law, we develop these things each one requires office space and for each employee you hire, you have committed the Government to \$15,000 in space and salary on an average. I am concerned that about all of the studies that can come out of a council; a commission, or a committee without producing actual results in the end. The most appealing thing to me about the Administration's approach to this thing, the President's approach, is that you develop the staff under the people who can actually implement and initiate policy under the direction of the President. And, of course, Congress always has its prerogatives to guide and appropriate, and so forth, in these areas.

That is all I have, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Allott.

Senator Anderson?

Senator ANDERSON. I am interested in Secretary Hickel's statement. Was your statement approved by the Bureau of the Budget?

Secretary HICKEL. Yes.

Senator ANDERSON. Therefore, the Bureau of the Budget condemns these three bills?

Secretary HICKEL. I would not say that specifically.

Senator ANDERSON. Why not?

Secretary HICKEL. I did not ask specifically.

Senator ANDERSON. Pardon?

The CHAIRMAN. He says he did not ask them specifically.

Senator ANDERSON. They volunteered?

Secretary HICKEL. Yes. I think the objective of the whole idea, as put forth in Chairman Jackson's statement so well, is an excellent one.

Senator ANDERSON. Well, and I quote: "It is our belief that the proposed new Environmental Quality Council makes unnecessary the kind of Council proposed in S. 1075."

Secretary HICKEL. Right.

Senator ANDERSON. Later on in your statement: "It is our recommendation that legislation such as contained in Title I of S. 1075 not be enacted."

Secretary HICKEL. That is right, Senator.

Senator ANDERSON. Well, then, does that not hit the three bills?

Secretary HICKEL. It does.

The CHAIRMAN. Would the Senator yield there? I think it is in the present form, because in the letter signed by Under Secretary Train, he says, "while we favor the objectives of these bills, we do not recommend their favorable consideration in view of President Nixon's announced intention to establish an interdepartmental Environmental Quality Council."

I take it that the objection runs to the structuring of an organization within the executive branch and not to the policy declarations of the committee, that are proposed in the three bills. Am I correct in that?

Secretary HICKEL. I think that is right. They favor the objectives of the bill. It is just a matter of whether it is done executively or legislatively.

Senator ANDERSON. If you favor the objective, why do you say it should not be done?

The CHAIRMAN. In the present form.

Secretary HICKEL. Because the President has the intention of establishing an interdepartmental Environmental Quality Council. And he feels it does not take legislation at this point.

Senator ANDERSON. My concern is that the groups have had this type of organization before, and the Joint Committee on Atomic Energy is an example of it. I just hope that you do not kill Senator Jackson's bill.

Thank you.

The CHAIRMAN. Thank you Senator Anderson.

Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

May I commend the panel for their fine statements in this very important area. It seems to me while there may be a difference of how to implement policy, there is very little difference in the policy itself. Is this a fair statement, Mr. DuBridge?

Dr. DuBRIDGE. Yes, sir. The only question is: What is the most effective instrument to get the action that is recommended in this bill?

Senator JORDAN. Yes. And you personally would not object to a statutory declaration of policy if that appeared to be an important matter?

Dr. DuBRIDGE. I think the administration would welcome that very much; yes, sir.

Senator JORDAN. Well, I call your attention, all of you who are here, to the declaration of policy which the chairman referred to earlier in the Employment Act of 1946. And I think it is important enough, Mr. Chairman, that I want to read it into the record at this time, because here is a declaration of policy that was put together to meet an emergency situation at the time, and the fact that it has not been amended down through the 23 years since that time indicates that there is still a meeting of the minds in this area. So I read it just hurriedly.

Section 1021. Declaration of Policy of the Employment Act of 1946.

The Congress declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means consistent with its needs and obligations and other essential considerations of national policy, with the assistance and cooperation of industry, agriculture, labor, and State and local governments, to coordinate and utilize all its plans, functions, resources for the purpose of creating and maintaining, in a manner calculated to foster and promote free competitive enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking to work, and to promote maximum employment, production, and purchasing power.

Now, that statement of policy has stood the test of time, and to implement it a Council of Economic Advisers was set up independent of the executive branch, that is, the regular Cabinet members, and they were given independent status.

So I have an open mind on how best to implement such a policy, but I do believe that it would be useful, it would be constructive to spell out such a policy in this instance. And if you would agree that statutory enactment of such a policy would be desirable, then we have one step forward in this very important area. Would you so agree?

Dr. DuBRIDGE. I certainly would agree, and the policy statement here is excellent. I would only hope that you would add some action sentences to it, to authorize action as well as study and research.

Senator JORDAN. Exactly so. I don't have the words, but I think the words can be had that would encompass the very objective that you have stated, that the chairman has stated in his bill, and that we all agree should be spelled out in a tangible way so that people can refer to it and say, "this is what we believe," and upon this we will bottom legislation to accomplish these objectives.

No matter how you do it, whether you do it by the interagency approach or an independent agency, these are matters that could be resolved later. But the essential thing, it seems to me, is what priority we give this work. Would you agree that it should have high priority? Apparently you do, because in the recommendation that came from the administration the President is to chair——

Dr. DuBRIDGE. Yes.

Senator JORDAN (continuing). This committee or this council. So it is not a matter, then, of there being a declaration of policy. We are all agreed on that. Do you agree that it should have high priority? We think it should have high priority. There is no disagreement there. Isn't it a matter, then, of not rejecting this bill, not rejecting this legislation, but coming forward with something that will implement what the chairman has in mind and what the administration has in mind?

Dr. DuBRIDGE. I think that is exactly right; yes, sir. And I am sure the Secretary would——

Senator JORDAN. Secretary Hickel, would you agree?

Secretary HICKEL. Yes; I would agree. I think the problem here is that environment is so broad, it covers so many things—in fact, as you mentioned, unemployment. Unemployment can be more of a specific thing, and I think if we could get the broad guidelines of the intent of Congress down in some sort of declaration, that that would be a wonderful help. But every time we have tried to get into it within our Department and others, we have found another phase of environment that hadn't been thought of, for example, the beautiful building is environment in some people's eyes, and we get into all kinds of facts and factors that always kept adding up. I think if it could be broad enough, because the term environment is pretty hard to put down on a piece of paper, it would be helpful.

Senator JORDAN. Well, I have an open mind on how we implement it, but I see some merit to the proposition of having an independent council whose sole and single purpose is to deal with this subject.

I hope you will keep that in mind, because I have seen interagency committees come and go, and most of them never go, they live forever once they are organized. And I say in my experience this Council of Economic Advisers has been more fruitful than all of the interagency committees I have seen in this Congress. And it is an independent agency. So I recommend it to you for your inspection and your consideration.

That is all I have, Mr. Chairman.

The CHAIRMAN. I want to thank Senator Jordan for those questions and an excellent statement. I want to say to the administration witness that I feel that we can get together after the hearings have been completed and try to work out some acceptable solution to his problem. As I understand the testimony today there is complete agreement about the need to do something in this area. I think that where there is a difference of opinion it is as to what kind of Federal action-forcing process should be set up.

I think the other problems can be resolved. Maybe we can resolve the structural problems as well.

I look forward, after we have completed our hearings, to an opportunity to sit down on a conference basis and go over the differences that exist. They are minor when compared with the agreement that I find between the administration and the committee about the need to act and to implement a policy declaration and, as Dr. DuBridge has mentioned, the need for action. I am confident that we can work that out.

Senator BIBLE.

Senator BIBLE. Thank you, Mr. Chairman.

Secretary Hickel, could you indicate the number of bureaus and agencies within your Department that are primarily concerned with the problems of environment?

Secretary HICKEL. They all are, Senator. I think on this task force—

Senator BIBLE. I don't mean on the task force. I mean in the agency that you head up right now, the Department of Interior. For example, the Bureau of Outdoor Recreation is interested in the improvement and preservation of the environment; isn't that right?

Secretary HICKEL. Right; that is true. I think they all are, Senator.

Senator BIBLE. Well, some that have primary responsibility, though,

in the area, such as the Water Pollution Control Administration. Its primary responsibility is vested in that Bureau; isn't that true?

Secretary HICKEL. Very true.

Senator BIBLE. How about the Office of Water Resources Research?

Secretary HICKEL. Yes, likewise.

Senator BIBLE. And the Office of Saline Water?

Secretary HICKEL. Yes.

Senator BIBLE. How about the Bureau of Reclamation?

Secretary HICKEL. I think that it has to take into consideration environment more and more in all the jobs that it does, and I do think, along those lines, that it has done an excellent job, but it can do more things than just reclamation. We have discussed that.

Senator BIBLE. And the Federal Water Pollution Control Administration?

Secretary HICKEL. Yes.

Senator BIBLE. That certainly was primarily set up and assigned to take care of environment problems; isn't that true?

Secretary HICKEL. Right; absolutely.

Senator BIBLE. The thing that concerns me is not the objective but the structuring, and I think it must be done by some type of a legislative act. I think that is the proper way to do it.

But I am concerned in the Administration attitude in one area that just came to our attention yesterday, and that was the elimination of a great deal of the moneys for the acquisition of lands for both the parks and the Forest Service, because these are certainly pretty well related to the protection and preservation and conservation of our environment; aren't they?

Secretary HICKEL. That is very true. I think it is one, Senator, of assigning priorities. We had a difficult time trying to figure out what to do and where to go, and I think we made the best choice that we could possibly make. And I think they haven't been really killed, so to speak; they have just been put off for a while.

Senator BIBLE. Well, of course, they are put off at an ever-increasing cost of which you are certainly aware.

Secretary HICKEL. I am well aware of that.

Senator BIBLE. And if the Appropriations Committee, in its wisdom, should see fit to put back a number of dollars to try to meet this need, which is going to be dollars saved in the long run, would you spend it?

Secretary HICKEL. I would take a look at that, but I would be awfully tempted.

Senator BIBLE. I hope that temptation will go beyond just the talking stage and get into the action stage. You have emphasized action, and you have a number of bureaus and agencies within the Department of Interior that are structured right now as action committees and bureaus, and they all require some sinews, and that means money. And I would hope that you would take a new look at this.

It is distressing to me because our experience in handling these bills over the last 10 years has shown that every time we run into a deferment, such as you are suggesting here, the prices soar and civilization moves in, and the natural resources are actually decimated. So I hope you take a good close look at that.

Secretary HICKEL. I would like to point out, Senator, we haven't cut back. We haven't increased. We haven't destroyed the program.

Senator BIBLE. No, but you took a pretty substantial chunk out of the——

Secretary HICKEL. Out of the proposed budget but not out of what was there before. We didn't cut it below the 1969 level.

Senator BIBLE. Well, it shows here, if I read the backup on this correctly, there is a cut at the 1969 level——

Secretary HICKEL. In land acquisition.

Senator BIBLE. Under your contract authority. You haven't used that contract authority to date, have you?

I think you have taken a very substantial cut in 1969, the budget you are operating under right now, insofar as contract authority is concerned.

Mr. Train might——

Mr. TRAIN. May I respond to that, Senator Bible?

Senator BIBLE. Certainly.

Mr. TRAIN. You brought that to my attention at the Appropriations Committee hearing. The committee had provided \$30 million of contract authority for 1969 and also for 1970. The Department has received clearance since that hearing of a week or so ago for the use of approximately \$15 million of that contract authority in 1969.

Senator BIBLE. Correct.

Mr. TRAIN. And it is our belief that that is the maximum amount that we could obligate prior to the end of this fiscal year.

Senator BIBLE. Well then, you will be obligating half of the contract authority.

Mr. TRAIN. That is correct.

Senator BIBLE. You have \$30 million authorized, and you could go forward with it——

Mr. TRAIN. That is right.

Senator BIBLE. You are going to go forward between now and July 1st with \$15 million of it.

Mr. TRAIN. That is right.

Senator BIBLE. And then next year you are going to completely eliminate the \$30 million?

Mr. TRAIN. Well, we haven't faced the next year's \$30 million contract authority.

Senator BIBLE. That is under your fiscal year 1970?

Mr. TRAIN. I would hope that the Department would be able to use the full amount.

Senator BIBLE. Well, I am just reading from your own backup on this, what I think is an unduly heavy cut in a program that you are going to have to face up to in the years ahead, and it comes almost entirely from the Land and Water Conservation Fund anyway. It is development funding, and if I read this correctly you take out the whole \$30 million; am I right or wrong?

Mr. TRAIN. The budget that has been submitted to Congress, the revised budget, reduces the actual spending authority for the Land and Water program by \$30 million in 1970.

Senator BIBLE. Correct.

Mr. TRAIN. \$15 million of that is made up of a reduction in the contract authority for 1969, which would be liquidated in 1970, and giving up \$15 of new budget authority for 1970.

Senator BIBLE. Well, I am glad to have had that clarification, be-

cause this shows here—and I am reading from page two of your backup—revised 1970 shows a complete deletion of \$30 million in the form that I have before me, but you say that is \$15 million out of fiscal year 1969, \$15 million—

Mr. TRAIN. Contract authority.

Senator BIBLE (continuing). Of contract authority. That is all I am talking about.

Mr. TRAIN. Which would have to be liquidated by appropriations in 1970.

Senator BIBLE. I understand. Well, I am glad to have that clarification for the record. I do hope that as you press forward in this environmental preservation you give consideration to the fact that this is one of the areas that must be preserved.

The CHAIRMAN. Senator Hansen, I believe, is next.

Senator HANSEN. Thank you very much, Mr. Chairman.

If I may, Mr. Chairman, I would like to direct my questions to Under Secretary Train. I refer to the letter that you have written to Senator Jackson as chairman of this committee, dated April 15. As I read your letter, Mr. Secretary, I gather that you find much merit in the objectives of the various bills which are before this committee but that you do raise some questions about the problems of trying to implement the objectives under that proposed legislation.

Referring to the fourth paragraph in your letter, you say :

First. Interior would prepare surveys and document and define changes in the natural environment and receive and maintain data on ecological research. These are enormous tasks requiring much time and money. While effort in this direction is needed, a much clearer description of objectives should be developed before we attempt to legislate a program in this area.

Now, when Senator Jordan was asking questions, I think Dr. DuBridge made the observation that he would not look with disfavor upon a spelling out of certain objectives and some approaches that might be considered. You share that view, do you?

Mr. TRAIN. Yes, sir, Senator Hansen.

Let me say, first, that this is the Department's report on the pending legislation which came up here over my signature. It doesn't specify my individual views. It is the views of the Department.

Secondly, I personally certainly share the views expressed by Secretary Hickel and Dr. DuBridge that it would be highly desirable for the Congress to enunciate by legislation a clear statement of national policy toward the environment.

Now, I do not think that this is something that can be done easily. I have tried my hand at it in the past and never yet have been satisfied with the results. The Full Employment Act objectives certainly represent the kind of goal at which we should shoot. But when you talk about the economy, you are talking about quantifiable goals such as full employment, purchasing power, but when you talk about environmental quality, these objectives are not so easily quantifiable.

And what may be quality to one person is not always quality to everyone else. So we are dealing here not only with tangibles but also with some intangibles, and this is what gives rise to the difficulties of definition. But I certainly agree that it would be a very worthwhile effort of this committee in cooperation with the executive department to make, and we certainly will cooperate with this committee in that respect.

Senator HANSEN. You make the point, or the point is made further down in the Department's position as spelled out in your letter, and I read, "If Interior must depend on other agencies coming to it, it is doubtful that many will. If Interior should volunteer its comments, it may be viewed as an interloper by other agencies and by those who benefit from the projects.

If the agencies were required to come to Interior, present administrative procedures would need to be changed.

Then you continue by saying:

The Department of Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined. However, this Department does not have the sole responsibility for environmental matters.

Now, my question to you, sir, having expressed the concern that you have and the concern which has been expressed by all of the witnesses here this morning, is: is there any better way, in your judgment, of assuring that something gets done about these problems than to contemplate a commission or a committee headed by the President, which would handle these problems?

Mr. TRAIN. I believe that at this time this is the most important step that can be taken and the most effective step. I thoroughly share the views that have been expressed in support of the proposed Environmental Quality Council to be chaired by the President. The fact that the President's leadership of the Council, his stated commitment to the environmental field is the single most important factor before us. No matter what mechanism were designed, if the President did not give it that sort of commitment, I think it would be a weak, probably useless act. Given the President's commitment, almost anything is possible.

Senator HANSEN. Well, I appreciate that response. I might just say that in my State of Wyoming we value very highly the importance of the esthetics of nature. As you know, we have quite a tourist industry in my State and at the same time we have some very important mineral resources, as the Secretary knows full well. These include oil, coal, uranium, to mention only a few. I might include oil shale also. And I have the feeling that it isn't going to be too many years until the growing demands of this Nation, coupled with the urgency of national security, will make imperative the further development of these resources.

Now, what we want to do in Wyoming—and I am sure what most Americans would hope to have done—is that we might develop some guidelines, we might explore and probe to see how best we can protect the quality of our environment and minimize the side effects that come about when we develop some natural resources so as to do both a minimum amount of damage to the environment and to nature as we find it untrammelled in our West.

Would it be your thought that under the direction and guidance of the presidentially headed Commission, as you speak of, that these are objectives that we could hope might be resolved in the best possible fashion?

Mr. TRAIN. Yes, sir; I think that certainly would be within the

jurisdiction of the Council. Perhaps Dr. DuBridge should speak to that, or could speak to it with more authority than I can.

Dr. DuBRIDGE. Well, that is certainly the whole intent of the present administration.

Senator HANSEN. Well, I thank you, Mr. Under Secretary, and you, Dr. DuBridge.

I have no further questions, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Hansen.

Senator Nelson.

Senator NELSON. Thank you, Mr. Chairman.

I have some questions I address to anybody on the panel. But first I would be less than candid if I didn't say that I am disappointed that in this proposal by the administration—I am pleased that the administration pays recognition to the fact, as they state that there is a serious environmental situation—but I don't think that the proposal made does, in fact, elevate this issue to a position of first priority in the Nation.

I haven't talked to all the representatives of conservation organizations, but those I have talked to share my disappointment in it, because for a number of years now the leading scientists from every discipline have been shouting their alarms about what is happening to the environment.

I remember when Rachel Carson's book came out, "Silent Spring," that she was attacked widely across this country by people saying, "Well, she was not a qualified scientist to make these kinds of judgments and draw these kinds of conclusions." Even some of our distinguished entomologists and biologists assaulted her on that ground.

I think that everybody who has watched what happened since Rachel Carson's book came out would have to say at this stage in history that what she said was an understatement of the issue, that it is worse than she asserted it to be.

Now, I think the problem is that we haven't had the political leadership in this country that really recognized and understood the environmental crisis in its broadest sense for what it really is, a threat to all living things on the planet, and it is, I think, exactly that. I think it is provable scientifically. I think it is approaching disaster. And I think we are moving very slowly and lethargically, if really at all, in terms of the big picture, to meet it.

It is an interesting commentary, it seems to me, that in that long presidential primary with some of the finest men in this country running for the presidential nomination in both political parties, that there wasn't a single candidate among them on either ticket who placed the environmental crisis as a high priority in his issues to discuss in the campaign.

I don't think there was a distinguished speech by any candidate for President that addressed itself to this critical issue. What that means, I think, is that they did not really understand either the significance or the urgency of the problem. Since they didn't understand the significance of what is going on, they couldn't address themselves to it.

Now, as I understand it, this proposal for an Environmental Quality Council—correct me if I am wrong—replaced the President's Council on Recreation and Natural Beauty, with some modifications in that

it limits the membership, the direct, immediate membership, to members of the Cabinet, the Vice President and the President.

I think that it would be fair to say that the total effect of the President's Council on Recreation and Natural Beauty wasn't very much. It did a little tiny bit. It didn't do more damage than it did good, but it didn't do very much good.

Dr. DuBRIDGE. I agree.

Senator NELSON. Now, the problem, if you take a look at it on an interagency basis—and I will ask a question in a moment, because I would like to have the name of one single interagency governmental group that ever had to deal with hard problems affecting the whole economy, affecting all the major industries in this country and all the municipalities that was ever a success, what decisions that they made that were a success, but I will ask that in a moment.

Taking a look at the Council, except for the Secretary of Interior, there isn't a single member of the President's Council who has as his fundamental primary responsibility a concern for environment, not a one of them—the Vice President, no; Secretary of Agriculture, no; Secretary of Health, Education, and Welfare, no; Secretary of Housing and Urban Development, no; Secretary of Interior, yes; Secretary of Transportation, no.

You might, by accident, appoint a Secretary of one of these agencies who by avocation, by concern over the years, has developed some interest and understanding of the problem, and maybe there is one here, but I don't know them. There was not in the last Administration, again, except for the Office of the Secretary of the Interior, there wasn't a distinguished spokesman on environmental affairs holding any one of those Cabinet positions.

So you start out with a group of people who, save one of them, has no primary responsibility in the field. I don't see how you can expect that when this responsibility is incidental at best, and when their background and history and understanding is meager, if any at all, how can you expect them to be deeply concerned, which is what they have to be, and deeply committed on the issue, which they have to be, and strongly and deeply motivated about the issue, which they have to be, about something that they understand vaguely or don't understand at all.

That is the first, it seems to me, fundamental weakness in the creation of this agency. I would be glad to have you comment on that at this stage, Dr. DuBridge.

Dr. DuBRIDGE. I think I would like to have Dr. Train comment on the first part of your remarks about the interest of the candidate, the presidential candidate, in this area.

Senator NELSON. I addressed my comments to all candidates. I am being very bipartisan about it. I don't think any one of them addressed themselves to the issue, but I may have missed something.

Mr. TRAIN. I will send you a copy of a speech made by Mr. Nixon on October 18, Senator, which I think was a very broad statement on these matters that did not receive very wide coverage.

Senator NELSON. I remember a brief story with some reference to it. I don't want to be unfair about this, but a speech on October 18, or July 1 wouldn't impress me. What would impress me about a candidate for President on this issue is whether or not he understood that this crisis is just as serious as the threat of an atomic war, if not more

so, just as serious as the deterioration of the cities, if really not more so. If a candidate hadn't been addressing himself to this issue for quite some years, I don't think he really appreciates what it is about.

I don't know how in heaven's name anybody could ignore speaking out about it if he understood it. I am not saying that these are bad people. These are some of the finest people in the country, but they did not have an urgent feeling about it. That is my feeling about it anyway.

Dr. DuBRIDGE. If I may respond to the second part of your remarks, you are correct in saying that it is not the exclusive responsibility of the Secretary of Transportation or any of these others to deal with environmental problems, but when you want action on environmental problems you don't just pick the experts. There are plenty of experts around Government who do have the devotion and knowledge and interest and the exclusive responsibility for them, but they are not the people who get the action.

Whatever the Government wants to do in this field or any other field, it must act through its existing departments and agencies. It has no other way of acting. I am not an action agency in the Government of the United States. I am only an adviser to the President, who can direct action through the existing agencies. The intention of this Council is to create an action agency whereby those who are responsible for action in fields affecting environment can get together, can be instructed by the President to carry out the actions.

Therefore, it doesn't make a bit of difference in one sense as to whether the Secretary of Transportation has any qualifications in the field of environment or not; he is responsible for the actions of that Department, and he can see to it that actions in this Department affecting environment are carried out if the President so directs him.

So it is not the qualifications of the individuals who are Secretaries, though I believe they are highly qualified and they all have a keen interest in this. It is a fact that they have at their fingertips the machinery of Government which under the President's direction and under mutual agreement can be put into operation and into action when the action is indicated. Do you see what I mean?

Senator NELSON. I understand that there is power there if the Secretary—

Dr. DuBRIDGE. That is the point.

Senator NELSON. That is right, there is power there if the Secretary, the particular Secretary, knows what to do with it. I have gone all through life failing to act on very significant problems because I didn't understand that it was significant, and so does everybody else. But I would ask you one question about a built-in handicap here.

One of the great environmental confrontations right now is the confrontation on the issue of chlorinated carbons, herbicides, pesticides, all of them that are slow, degrading, that have long half lives of 10 years or so. We have two Presidential commissions now which have made recommendations on this issue that are now approaching 5 years old. I think the first one was in 1965, in which the urging was that we make moves to ultimately move to take out of the marketplace the long, slow, degrading pesticides.

Nothing has been done about it, absolutely nothing. The evidence is accumulating dramatically all over this country. We have all kinds of research going on. But we are killing the Bald Eagle. We are killing the Bermuda Petrel. We are ruining Lake Michigan so we can't eat the

Coho Salmon. We are degrading the environment and destroying animals all over the world.

Dr. DuBRIDGE. But we are saving millions of dollars in crops and we are killing millions of mosquitoes that otherwise spread malaria and other disease. There are positive sides, too, sir.

Senator NELSON. Well, I will get to that specific issue in a second. But let me ask you this. You have a Secretary for instance, I understand from everybody I know that Mr. Hardin is a very distinguished, fine man. So was Orville Freeman, who was a good friend of mine. Any Secretary of Agriculture is in this box. He is on this Environmental Committee and he is convinced in his own mind that on balance a particular pesticide that is being used in agriculture is doing more environmental damage and more economic damage in the long pull than the year-to-year successes from the use of it, and this you will agree is entirely possible and likely.

Dr. DuBRIDGE. Yes, sir.

Senator NELSON. He sits there with his budget controlled by powerful members of the Agriculture Committee in the Senate and a powerful agricultural-oriented man, say, in the Appropriations Committee, and the same is true in both Houses. They have a constituency, whether it be cotton, corn, wheat, or whatever it may be, that uses this particular pesticide, and on a year-to-year basis it is very valuable to that crop, but it is doing grave damage to the environment.

Isn't that Secretary really handicapped to say what he thinks, to provide the leadership, to make the fight when he has to turn around and go back to a committee of Congressmen who have constituents whose economic life depends on this crop? Where is the freedom to act under that circumstance?

Dr. DuBRIDGE. I am afraid, Senator, you are indicting the entire Federal Government because whether the issue is environmental or anything else, the problems that you raise are there. The power of a Secretary at the Cabinet level is limited by the funds he has, the support he has from the Congress and from the President and from those who are concerned. You are putting your finger on a very important problem of how the Government gets anything done. And what you have said refers not only to environmental problems but to anything else, doesn't it?

Senator NELSON. No. I think it is—well, I don't say no unqualifiedly. I am saying what you have taken is the weakest link in the whole political problem and put him in charge of it. You have taken a Secretary who can't survive without that budget and having him trying to make recommendations and decisions in an area in which he is going to get slaughtered down on the House and Senate floors. It is quite different if you have an independent agency that is appointed and highlights the problem and makes the necessary propaganda and necessary education which that Secretary can't do.

And if you have a distinguished committee with scientists and others on it and they don't pull any punches and they point the finger at the problem and explain to the country that you may get x acres more of corn, and x bushels more of corn or bales of cotton, but on balance we are doing this damage to ourselves and the environment, and measured in terms of 10 years the damage is much greater and we must stop it and arouse the public interest to support the decision—a state-

ment that a Secretary of Agriculture probably wouldn't dare to make—that is the problem.

Dr. DuBRIDGE. But the President could make it. It is true that the President needs some support. I think Mr. Hickel can answer this question.

Secretary HICKEL. Senator, I was going to say that I think, in talking to the President and the various members of the Cabinet, that this is arrived at as being one way to expedite action. For example, I spelled out in my testimony the problem we have with the conservation and development on the North Slope. But the problem isn't wholly within my Department. Part of it is in the Department of Transportation.

Now, if we are in a meeting and we point out that problem, I would think the President would have the authority to make a decision right there, and I think it is that kind of action that we are trying to implement in this kind of a Council. We all know the weaknesses you point out. Those are inherent no matter what we do. But it will be a great advantage for us, those of us that want to accomplish something, to be able to spell out the problem, and if the solution is in some other Department other than ours, get a decision on it rapidly in a council such as this. And I think therein lies the strength of this Council.

Senator NELSON. Well, thank you, Mr. Secretary, but let me say this about it: Everbody here knows without saying that there are 300 hours of time demanded of the President for every hour that the poor man who holds that responsibility can give. I spend 10 percent of my time, I would say, in my office, with a full-time resource, recreation, and environmental man, I spend 10 percent of my time on it, and that isn't enough on these problems.

If you are really expecting the President to lead it, how much time can he spend on it? In all due respect, the President is just too harassed. I think it is unfortunate. He should not have to see all these people, but all Presidents do. They ought to spend their time elsewhere, but they have to see the President, and they take all of his time. I just quite frankly don't think the President can devote all that time to this problem.

But let me get back to something specific. Dr. DuBridge, you referred to DDT and its use as a disease vector. Of the tens of millions of pounds a year we are putting into the atmosphere, how many pounds of that are being used on a disease vector in this country?

Dr. DuBRIDGE. Yes. I don't have the figures on that. I agree that there is waste and improper use of DDT. But I only want to emphasize that in a very basic sense DDT has saved enormous crops and stopped enormous threats of disease.

I just talked with somebody from a small resort in a certain State not too far from here where they had locally prohibited the sale of DDT. Mosquitoes were invading the place and the summer resort qualities were suddenly being destroyed.

It is a kind of thing you get into both ways, that there are positive things. The point is that the management of DDT is terribly important, and I certainly agree with you there. It can be managed better to produce less deterioration of the environment. I have much hope that other kinds of compounds will be developed that are as effective as DDT as pesticides. I do not know the status of that development at the moment. It is certainly underway. But it is a problem of management.

As with all waste, it is impossible to get rid of wastes; they are a part of the human condition. We must manage our wastes in such a way as to produce the least harm.

Now, there are proposals for doing this, and I hope they can be implemented.

Senator NELSON. The problem seems to me to be, the issue really isn't how much good DDT has done. I think the issue in this respect is how much unnecessary damage has it done.

Dr. DuBRIDGE. Right, sir.

Senator NELSON. In my State, I recommended prohibiting its use. There is no question in my mind but what the damage is 10, 20, 50 times as great to my State as any economic benefit. I see no economic benefit in cities appropriating money to fog the suburbs and fog the area to kill all the mosquitoes and load the whole atmosphere with DDT. But we do it. In our State it is used for Dutch Elm disease and it hasn't stopped the Dutch Elm disease. It has killed the birds and it is used for killing mosquitoes, not as a disease vector, but for creature comfort.

I have been urging the Department of Agriculture for several years to cut back on the use of DDT. But how are they going to do it when they represent an economic interest group who use it and are powerful.

Dr. DuBRIDGE. This is a question of how do you get action, and one has to use the highest elements of Government to get action.

Senator NELSON. What is your view, what is the approach of this interagency group? We have a vast number of problems. Some of them we take by piece and some of them are big problems. Let me give you one. The Secretary of Interior expressed his grave concern about the building of an airport near the Everglades and the discharge of the gas and pollutants from the jet planes. Am I correct, Mr. Secretary?

Secretary HICKEL. Correct.

Senator NELSON. Into that large ecological complex. Let me ask a specific question. Increasingly, for 10 years, 15 years, every thoughtful person who is aware of this unique ecological complex in the Everglades, which is the only one really of its kind so far as I know in the whole world, fed by salt water through all the channels and canals in the South and fed by Lake Okeechobee from the North by fresh waters, we see the disappearance of the alligator, we see the imbalance being created in that great system by draining off the fresh water for irrigation of crops that we don't need—it will be a world tragedy if we let the Everglades be destroyed.

In my conversations in traveling through there with the people who live with this, the biologists and the others are alarmed, dismayed and sad about what is happening and the lack of action. Here is one of America's great assets. Nobody has really done anything about it but talk. Would you consider it a fundamental first priority to get right at this matter and try to do the things necessary to save the Everglades?

Secretary HICKEL. I will answer that and say that I don't know specifically what you have in mind or what the power of this Council would be in just saving the Everglades. I think you have the problem of the cooperation of the State of Florida. I think you would get that cooperation. It would undoubtedly take some legislation. I think we could get that. I wouldn't say that that would be our first priority. There are a couple of other areas that are just as great in magnitude, in my opinion, that are being destroyed at this time that should be protected.

But I would say this: I mentioned in my talk before you today that the Everglades is one of high priority. I used that as an example of what is happening. I don't know how to be specific at this point, other than to say that it has to be brought to the attention of someone, and whether we can undo what has been done is another story. But we can prevent further encroachment of what is there now.

Senator NELSON. Let me ask one concluding question: I think I had addressed it originally to Dr. DuBridge.

I know that all of you recognize when you deal with this problem, you deal with the whole political-economic structure; that is, you deal with the whole soap and detergent industry, because they are putting sulphates into the water and fertilizing them and destroying our water, and they ought to have to stop.

We know that we are dealing with the chemical industry, the automobile industry, we are dealing with every industry that puts pollutants into the air and pollutants into the water. There is hardly an industry in this country that is not involved here. It is tough, hard, political fighting. Down through the years the conservationists have lost almost all of them, maybe they win a little pittance here, but they have lost them to the timber interests and others all through history.

Now, here is an interagency committee. And my skepticism is that 2 years from now we will be back saying it didn't work. Is there an example in the history of this country of an interagency committee of this kind that had a responsibility as tough as this one that has been a success?

Dr. DuBRIDGE. The only analogy I know of is the National Security Council, if you want to call that an interagency committee. It is a setup exactly the same as this is. It has solved some pretty important problems in our national security area.

Senator NELSON. It got us into Vietnam.

Dr. DuBRIDGE. That came out of World War II.

Senator NELSON. I am not aware of any tough political decisions they made. If they were recommending more armaments, they had every industry and labor union and chamber of commerce in the country supporting them, because the military-industrial complex has got almost everybody on their side.

But where is the tough problem they solved where they had to confront some tough opposition?

Dr. DuBRIDGE. I think winning World War II was quite a tough problem.

Senator NELSON. Yes, but we didn't have to argue about whether we were going to fight Japan or Germany. We were unified. I am talking about a specific tough issue on any interagency responsibility which they had.

Dr. DuBRIDGE. I can only ask you what other mechanism solves problems as tough as this, what other mechanisms do you have?

Senator NELSON. Well, I think the proposals in the bills before the committee, though far from perfect, present a better formula, a better format, a better vehicle for undertaking to tackle this problem than what the administration has.

Dr. DuBRIDGE. It proposes a group of advisers to the President, which is fine. The President would have to act, or he would have to act

through his Cabinet members, and that is the Council that is being proposed.

Senator NELSON. It proposes that there be studies of the effects of all the pesticides and pollutants on the whole environment, that research be done, that what is being done be coordinated, that this independent body look at all these problems, make specific recommendations. They stand there as an independent body. Politically, they can't be pushed around.

You also involve your departments and agencies, including the President of the United States. But you give a primary responsibility to a group which is going to have it as their primary responsibility to tackle this question.

Dr. DuBRIDGE. Well, I don't—I guess I don't understand your conception of this. The Council proposed in the bill would be a very important advisory research body for recommending action to the President. If the President agreed with the recommendations, he would have to implement them through the Secretary of the Interior or the Secretary of Transportation or whatever other Cabinet officer was responsible for action in that field.

I don't know of any other mechanism which this Government has for getting action except by direction of the President through the proper Government agencies. Then the best thing for the President to do is to get the best advice, and the staff of this Council or the Council which you are proposing is a good instrument for giving advice, but it has no power to act.

Senator NELSON. Let me give you an example of what I am talking about, and it is recent. The National Academy of Sciences and the National Research Council has had the responsibility of reviewing the efficacy of all the drugs in the marketplace that were discovered prior to 1962. Now, for years—it is not any secret to anybody—prior to Dr. Goddard, for years the FDA was a weak appendage of the drug industry for all practical purposes in terms of regulating that industry.

The National Academy of Sciences has great distinction with the whole medical profession of the country. The National Council on Drugs—they have been evaluating and coming back with tough recommendations—and the Director of the FDA is able to stand on this independent body's recommendations. They are unassailable as a distinguished independent body.

If it weren't for that and the FDA tried to do this alone, the drug companies would fold them up in 24 hours.

That is what I am talking about, an agency which can't be folded up. Thank you.

The CHAIRMAN. Senator Stevens.

Senator STEVENS. Thank you, Mr. Chairman.

I have just two questions. First, a statement.

My attention has been called to a statement made on October 19, 1968, by the then candidate, Richard Nixon, in answer to a comment made by Senator Nelson. I think it is a very good statement, an outline of 12 points that the President intended to pursue if elected.

He said:

We are faced with nothing less than the task of preserving the American environment and at the same time preserving our high standard of living.

It would be one of history's cruelest ironies if the American people, who have

always been willing to fight and die for freedom, should become slaves and victims of their own technological genius.

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning, and a piecemeal approach to problems of natural resources.

Mr. Chairman, since I think this statement, called "A Strategy of Quality: Conservation in the Seventies" directs itself to this problem, if you would permit me to do so, I would like to put it in the record of this hearing.

The CHAIRMAN. The statement by the President will be included in the record at this point, or at the conclusion of your remarks, whichever you like.

(The statement referred to follows:)

REPUBLICAN NATIONAL COMMITTEE,
Washington, D.C., October 19, 1968.

RICHARD M. NIXON, REPUBLICAN PRESIDENTIAL NOMINEE, RADIO ADDRESS—
CBS, OCTOBER 18, 1968

This is a time when technological advances have given us material benefits beyond the dreams of all other nations and civilizations, and yet we are confronted with an important and perplexing problem.

Obviously we must make more use of our natural resources to maintain our high standard of living.

But the more inroads we make upon our land and water and air, the less we are able to enjoy life in America.

We need lumber to build our homes; but we also need untouched forests to refresh our spirit.

We need rivers for commerce and trade; but we also need clean rivers to fish in and sit by.

We need land for homes and for great industrial plants; but we also need land free from man's works, land on which a man can take a long walk, alone, away from the pressures of modern life.

We need the dynamic productivity of industry; but we also need fresh air to breathe.

We need the raw natural materials with which to create the products we desire; but we also need large areas of land in which a man can re-create himself, areas of true recreation.

Today, "Natural Resources" has a double meaning. It means not only those riches with which we have been so abundantly blessed for our economic and technological advantage, but also those same riches as they exist for our psychological and emotional and spiritual advantage.

We must conserve and use our natural resources because of the numerous things we can do with them.

We must also conserve and use them because of what they can do for us.

We need a high standard of living but we also need a high quality of life.

We need not only more uses for our natural resources, but also better uses.

We need a strategy of quality for the seventies to match the strategy of quantity of the past.

I was born and spent my early years in the western United States and during my life I have travelled across this country many times. I have never ceased to be inspired by the variety and complexity of the American landscape.

But now man and his works are in places which only a few years ago were untouched by civilization, and now, as I fly across the great mountains and deserts, high above the green forests and winding rivers, new questions arise:

Can we have the highest standard of living in the world and still have a land worth living in?

Can we have technological progress and also have clean beaches and rivers, great stretches of natural beauty and places where a man can go to find the silence and privacy he is unable to find in our increasingly urbanized daily life?

Will future generations say of us that we were the richest nation and the ugliest land in all history?

Are we doomed by some inexorable thing called progress to give to our children a land devoid of beauty, empty of scenes of natural grandeur, filled with gadgets and gimmicks, but lost forever to the wonder and inspiration of nature?

These are the important questions. They deal not with one part of American life, but with life in America itself.

We are faced with nothing less than the task of *preserving the American environment and at the same time preserving our high standard of living.*

It would be one of history's cruelest ironies if the American people, who have always been willing to fight and die for freedom, *should become slaves and victims of their own technological genius.*

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning and a piecemeal approach to problems of natural resources

It is a battle which will have to be fought on every level of government, not on a catch-as-catch-can basis, but on a well thought-out strategy of quality which enlists the aid of private industry and private citizens.

At the beginning of this century, Theodore Roosevelt called upon the American people to preserve the natural heritage. The time has come to renew that call, and to bring to a program of conservation the techniques of the seventies.

Modern technology and old-fashioned pride in America can and must combine to win the battle for our environment.

The technological know-how which will help to place man on the moon can be used to help him keep areas of untouched land, clean rivers and streams and pure air on earth.

I say we can have technological advances and natural beauty. I say we can have fresh ideas in industry and fresh air in our cities.

I say we can have the greatest industrial might in the history of man and have places where man's works seem as distant as the stars.

How can we pursue this strategy of quality?

First, we must re-examine all existing Federal programs with the aim of coordinating them. Under the Eisenhower Administration, such acts as the Federal Water Pollution Act channeled federal funds through a single source eliminating duplication and red tape. There is a grave need for such coordination and cooperation on every level of government, and especially between federal and state and local government.

Second, we must make better use of computer technology which can swiftly and efficiently help us to determine the nature and probable effect of existing balances of mineral resources in our own country and throughout the world. Such aid can also be used in helping officials to create multiple use of lands and explore the possibilities of ocean resources.

Third, we must create a national minerals and fuels policy if we are to maintain production needed for our economy and security. The strategy of quality looks upon the oil well and the mine as vital parts of the American economy and of American power. There is no contradiction between preserving the natural beauty of America and assisting the mineral industries which are the primary sources of American power. Economic incentives, including depletion allowance, to encourage the discovery and development of vital minerals and fuels must be continued.

Fourth, federal laws applicable to public lands and related resources should be brought up to date. These lands will be managed to ensure their multiple use as economic resources and recreation areas.

Fifth, although most of our nationally owned land is in the West, most of the population is in the East. We must work in cooperation with cities and states all over the country but especially in the industrialized East—in acquiring and developing green space. The rugged grandeur of mountains a thousand miles away means nothing to a city child who is not able to get to them. Our cities must not be allowed to become concrete prisons. The creation of national parks and outdoor recreation areas near the large cities is as vital a part of the strategy of quality as the preservation of the great forests and rivers of the West.

Sixth, every effort must be made to purify our rivers and streams and air. Last Sunday in a paper dealing with the pollution of our cities, I outlined a program of anti-pollution measures. Although the paper dealt specifically with problems of our cities, the program is applicable in many parts to the entire problem of pollution. Without repeating the entire six-point proposal, I will mention two key points:

Regional and federal approaches to the problem must be perfected and expanded since air and water pollution spills over traditional political boundaries.

The federal government should be the example of the highest standards of pollution control and all federal facilities should eliminate pollution if we are to expect the rest of the nation to follow suit.

Seventh, water and soil conservation and development programs must be coordinated. At the present time, four Cabinet departments are involved in water resources: Health, Education, and Welfare, Interior, Defense and Agriculture. It often happens that different agencies proceed in contradictory programs concerning the same problem. We must improve water resource information, including an acceleration of river basin commission inventory studies.

Eighth, we must investigate the possibilities of desalination programs. A limited supply of water is already one of the pressing problems in the world and could become a severe problem in America. A breakthrough in desalination methods could make fresh water available to coastal and surrounding areas throughout the world. Atomic desalination offers an exciting possibility of greater output at much lower, perhaps even competitive prices. We must stop talking about the future of water preservation and development and start doing the research and studies which will bring the future to us.

Ninth, we must intensify the investigation of ocean resources. The ocean lies as close as the nearest beach, but in its mystery and promise, it is as distant as the fabled lands of old. We must redouble our efforts in developing oceanography and new methods of harvesting resources from the sea. Vast stores of minerals lie beneath the ocean floor waiting for the ingenuity and courage and determination of man to extract them. The Seventies can be not only the decade when Americans reach for the stars but when we dive for the riches of the sea, not the traditional sunken treasures, but riches such as protein to feed the world.

Tenth, we must improve our forestry practices, including protection and improvement of watershed lands. National forests are as important for recreational purposes as for preservation of wildlife, watershed control and timber production. We must extend methods of fire control in forests by fire pre-suppression and control work. Public and private agencies must work together to reduce the hazards of fire, pestilence, and disease. Here, as in every area of conservation, coordination of effort is of utmost importance.

Eleventh, we must act to preserve and maintain our wildlife. Already 24 birds and 12 mammals native to the United States and Puerto Rico have become extinct. This is only the beginning: 30 to 40 birds and 35 mammals are currently threatened with extinction unless efforts are made to acquire and maintain sufficient habitats. The preservation of fish and wildlife will require research, more land for sanctuaries, restoration of clean waters, conservation of wetlands, better watershed management, and cooperation between federal, state and private institutions.

Twelfth, we must make our recreational areas the best in the world. A quarter of a billion people, more than the total population of the United States, visit national parks and monuments annually. The average annual growth in visits to outdoor recreation areas has been ten percent a year.

We are now becoming more aware of the problem emphasized and rigorously attacked during the Eisenhower Administration—overcrowding of our national parks. We have succeeded beyond success in attracting people to our parks. If we continue the present rate of increase, we will soon face everyone with the crisis of overcrowded parks and recreational areas, which already exists in many places.

Again, a unified cooperative program is immediately needed if we are to save our outdoor recreation programs and develop new ones. A recreation coordination act can provide integrated planning for recreation in all new federal resources programs.

Conservation cannot be successful unless there is an on-going commitment, based on sound conservation principles, by the various government and private agencies.

We cannot afford a policy of conservation which promises much but delivers little.

We cannot afford a policy of conservation which jumps from problem to problem eager to seize on the problem most recently publicized.

Our single goal in this field is the enhancement of the life of every American.

Americans, every one of us, must be able to look at all of America and say: This is my country, not only its material power but its natural glory.

Not only the dynamic sound of its industries but the silence of its great forests.

Not only the march of technological progress, but a casual stroll along a beach at night.

Not only the material benefits of today, but the deeper, richer gifts I can leave my children, gifts of natural grandeur and the solitude which is so necessary for the great search to find one's self.

The boy sitting on the steps of a ghetto tenement deserves and needs a place where he can discover that the sky is larger than the little piece he is able to see through the buildings.

This is our country.

The next administration will do everything it can to keep it great and to keep it for those who come after us, a land of majesty and inspiration, truly the most powerful and most beautiful country in the world.

Senator NELSON. Mr. Chairman, may I make a comment on that?

The CHAIRMAN. Yes.

Senator NELSON. I just want to make it clear that my remarks were directed to the fact that none of the candidates in either party considered this issue of fundamental first priority in their political speeches. I didn't select out the President or anybody else. It was true of all of them. I simply say if he did give a speech as late as October 19, it really wasn't a fundamental priority, but I make the same criticism of all of them.

The CHAIRMAN. Yes, I understood Senator Nelson's statement that his comments went to all candidates on both tickets.

Gentlemen, the real question is not the past but what we are going to do from here on out. I think all of us have been neglectful. I know that I have not spent as much time on this problem as I would have liked to have spent. I think it is in that spirit that Senator Nelson would like to see us go forward on this problem.

Senator STEVENS. Thank you, Mr. Chairman. As you can tell, I lost my voice up in Alaska. Mr. Secretary, I am interested in your proposal of your announced task force, and I want to commend you on that. You read, I am sure, as a matter of fact we read together, that recent Sports Illustrated article on the confrontation in the Arctic. Have your people in the Department expressed concern over the development to date or over the potential development there?

Secretary HICKEL. Yes, Senator. That is one of the reasons that we have come up with this task force. The problem is, How can we act soon enough?

Senator STEVENS. Well, I would encourage you to act as soon as possible so that we don't get the roadblocks in the way of Alaska's development that might occur if people didn't understand what is going on up there.

I was interested, Mr. Chairman, in the fact there is only one road in an area the size of California, as you know, and it seems to have attracted a great deal of attention, even though it is just a temporary winter road. And being one of those who would like to see a permanent road in there, I would urge you to have your task force ask as soon as possible to coordinate with these conservation groups as the chairman suggests so that there is an understanding of the problem there and the need for that transportation. And I think if that comes, we can preserve the environment there and achieve the goal that we all seek, and that is development of those resources.

Secretary HICKEL. Well, Senator, that was the reason for our requesting a corridor in 1967, so we could contain, so to speak, these

various facilities that would have to go through that country and not be scattered every which way.

And as you know, Secretary Udall, at our request, set aside that corridor in 1967. But the problem is beyond that.

Senator STEVENS. Yes.

Secretary HICKEL. And we need some help.

Senator STEVENS. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Stevens.

Senator BELLMON.

Senator BELLMON. Thank you, Mr. Chairman.

I would like to ask a couple of questions, first of all, of Secretary Hickel.

In the letter from Secretary Train, in the last paragraph on the first page, you said that "The Department of the Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined."

Now then, in the letter you said that you would like to have the authority—and I frankly think the Department should have it—and now this legislation we are considering, S. 1075, as well as the other bills, as well as the proposal from the President, would set up a council or a commission to share this authority with you.

Now, I served for a time as Governor of a State and as Governor I was a member, either official or ex officio, of probably two or three dozen boards and commissions, and ordinarily all I knew about what happened was when we got the annual report, which was usually so thick we couldn't read it anyway. And I wonder if either of these councils would really have the time to devote to the problem that is involved and whether it might not be needed to do the thing that Mr. Train has recommended here and assign these responsibilities to you as Secretary of Interior and to give you the mechanism you need to enforce the rules and regulations.

Dr. DuBridge, you made a comment in your remarks about how the State of California left \$75 per automobile stand between them and reduction of the smog hazard in Los Angeles. At the present time what individual, what official or what agency in the Federal Government has responsibility for coping with a question like that?

Dr. DuBRIDGE. In the Federal Government?

Senator BELLMON. Yes.

Dr. DuBRIDGE. HEW, I guess, in the agency.

Senator BELLMON. HEW has responsibility—

Dr. DuBRIDGE. For air pollution.

Senator BELLMON. They can say to the car manufacturers that "You will not sell a car unless it has the proper device on the exhaust"?

Dr. DuBRIDGE. I think they would be the implementing agency, but legislation would be required. There is no legislation that empowers them to do that particular thing at the moment.

The CHAIRMAN. Senator, air pollution control is in HEW and the water pollution is in Interior. I would like to see, frankly, both of them in Interior, because one of the solutions for the water pollution problem, for example, is to use cooling towers. This creates an air pollution problem. So you go from one jurisdiction to the other trading

off on a problem. They should be in one place. That is something the President will have to decide.

But might I just ask one question before Dr. DuBridge leaves?

Senator BELLMON. Yes.

The CHAIRMAN. I think it is important for the committee here, Doctor, to find out what is being done in the various agencies on environmental problems. The committee staff is preparing a questionnaire which will give the committee as much of this information as we can get. I wonder if your office and your staff people could work with the committee in collecting, analyzing, and interpreting some of this information.

Dr. DuBRIDGE. Yes, certainly.

The CHAIRMAN. I assume there is no problem on that.

Dr. DuBRIDGE. No.

The CHAIRMAN. All right. Fine.

Secretary HICKEL. I can answer the question you asked me, Senator.

Senator BELLMON. All right, go ahead.

Secretary HICKEL. Basically, I think the President made a decision that he could get action faster with this Council, and I would hope that most of the studies and research that we now have within our Department on environment would be made available to the Council. We would do that regardless of what agency was involved. And I think what you asked me, whether we could do it, if it were assigned to us as a direct responsibility, yes, we could, but I think it was the President's opinion that if the problem were in some other Department, then he could say, let's get it done and let's make a decision, and that is the reason for the Council.

Senator BELLMON. Mr. Secretary, again referring to some previous experience in Government, usually a commission is the very worst way to get anything accomplished. If you have an individual and can say to this individual, "this is your job and we want results," you can expect results. But if you give it to a commission, you usually can expect procrastination and indecision.

Do you feel that a council of this kind could ever really come to grips with some of the problems you face in your area?

Secretary HICKEL. I think you hit upon a good point. If I have a problem that must be solved in a hurry and it involves another department, I think, regardless of whether we have a quasi-council or a full council, we could get a decision in a hurry through the President.

Senator BELLMON. Well, have any of the officials in Interior ever considered the additional responsibilities that you need to cope with the problems of environmental control?

Secretary HICKEL. Well, if all we had to do was make the decision not to talk to anyone else, we could probably do that, but the whole problem of Government, as has been mentioned so clearly here, is how can we get to the problem fast enough. And I see this very clearly in so many areas. And some of it requires legislation.

I think what we have to do is to say this is a problem, what is the requirement for action. If it is legislation, let's get the legislation. If it is solved by Executive decision, let's solve it by Executive decision. And this Council would have as high an executive body as possible in this country, with the President chairing it, and I think that is the intent. We are not going to say we won't make mistakes. We are not going to say it is going to be absolute, or will even be the total solution.

But it is a step, and I think if Congress could give the Council their guidance, what they would like for it to do, that that would be helpful.

Senator BELLMON. I would like to associate myself with the comments that our chairman has made, and that is that I feel that Interior should probably have primary responsibility in this whole field of environmental control, or for improving our environment. And, Mr. Chairman, if it is in order, I would like to suggest that the Secretary prepare the proposals he feels that are needed to give Interior the muscle they have to have to move in these areas.

The CHAIRMAN. Yes. We can request this individually, Senator. The Secretary, of course, has to follow the directive from the Bureau of the Budget, which acts for the President, and the President will have to make the decision. In order to protect the Secretary, I want to make that statement.

Secretary HICKEL. I appreciate that.

The CHAIRMAN. I think the Department, Mr. Secretary, will supply Senator Bellmon and the committee any information that we need and any drafts that we need. It will all have to be, however, subject to the understanding that it will not necessarily represent the views of the Secretary until they have been cleared with the Bureau of the Budget and the President. Is that right?

Secretary HICKEL. Thank you, Mr. Chairman. I appreciate that. And we will get that to you, Senator.

Senator BELLMON. Thank you.

The CHAIRMAN. Thank you, Senator Bellmon.

Thank you, Secretary Hickel, Dr. DuBridge, Secretary Braman, and Secretary Train. I think this has been a very helpful morning, and I want to compliment each and every one of you for your contribution to this discussion.

We will resume at 2:30 this afternoon when we will open with Senator Tydings, former Secretary Udall, and conservation witnesses.

(Whereupon, at 1 p.m., the committee recessed, to reconvene at 2:30 p.m., this same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

As we resume this afternoon, the first witness is Dr. Lynton K. Caldwell, professor of government, University of Indiana. Dr. Caldwell has done a lot of outstanding work in the area that is under discussion.

I want to say in behalf of the committee that we are particularly in his debt for the support that he has given to the previous studies by the committee, and we are honored and pleased to have him with us this afternoon.

I want to say that your background statement, which I read last night, is excellent and very, very helpful in putting the problems that we are discussing today in proper perspective. I want to compliment you in getting to the basic issues involved, which you did in the first sentence of your paper.

STATEMENT OF LYNTON K. CALDWELL, PROFESSOR OF GOVERNMENT, UNIVERSITY OF INDIANA

Dr. CALDWELL. Well, thank you very much, Senator and members of the committee.

I will make my remarks rather brief. It may well be at this stage in the hearings that more will be gained by interchange, questions, and so on, than by an extended statement, particularly in view of the longer written statement which I have prepared for the committee.

The CHAIRMAN. The entire statement will go in the record. Why don't you make your own paraphrase of the paper as you see fit, giving us the benefit of the highpoints.

Dr. CALDWELL. Good. It seems that in the morning session here there was a good deal of agreement here as to what the issue is. That issue, as I believe we saw it, is the continued viability of the life support system of the United States. That is to say, of the air, water, land, and living things upon which the health and happiness and prosperity and, indeed, the survival of the American people depends.

It is generally agreed that this is high priority, at least in theory. But it is less certain, I think, of whether it is, in fact, high priority.

Senator Nelson noted this morning that there was some doubt, at least in his mind, that the environmental situation was being accorded the degree of attention that the circumstances required. Senator Bible remarked that he was disturbed about the inadequacy of funding for the land and water conservation legislation.

I think as a matter of political history in the country we have found that public policy was pretty generally measured by fiscal policy. It is not only what we say we think is important that is evidence of our concern, but what we do about it. Particularly when what we do about it has to be translated into the allocation of the hard-to-get tax dollars. And when this requires decisions as among many priorities, there are very few people that will argue that the environmental issues before us are unimportant, very few that will argue that they are not high priority. But we can have many high priorities.

I think one of the questions that clearly is before the committee is how high this high priority is in relation to other things.

Now, I would argue, Senator Jackson, that this issue is a major issue, indeed the major issue of our internal security, that it is no less an important issue to our internal security than military defense is to our external security. This issue of environmental degradation affects all of the American people regardless of income or condition, or race, or whether they live in the cities or whether they live in the rural areas; we are all affected. This cuts across all categories of American society. We are all, so to speak, travelers, as Adlai Stevenson said a number of years ago and as President Nixon in effect reiterated in his inaugural address, in what amounts to a spaceship, and we cannot afford to place, it seems to me, a priority here any less than the priority that we would place on the very security and survival of the country.

There is certainly accumulating evidence—and this has been referred to in the session this morning by a number of Senators and a number of the witnesses—as to the effects that science has found in the impact of population and technology upon the environment.

The effects of environmental deterioration have been documented in

a large number of Government reports and indeed they are visible all around us. But I think our difficulty in dealing with the problems of the environment in a policy sense is that they are really due to our American way of life.

As Senator Allott observed this morning, many of our customary ways of thinking and organizing in Government are not adequate to deal with the environmental conditions that have emerged from the pressures of population and technology.

Indeed, the problem of environmental policy is a broad and complex one. It is broader than science. It is broader than traditional conservation or health or economics and aesthetics. It is no less broad, I would contend, than those issues to which we are accustomed to considering under the title "National Defense," "National Security."

For these reasons, I believe that our approach to problems of the environment should be based upon a sound appraisal of the actual circumstances confronting us today.

In principle, the provisions that are incorporated in Senate Bill 1075 and in similar measures, particularly those introduced by Senators Nelson and McGovern, are required if we are going to launch an attack on the growing threat to our environmental security. The very fundamental character of this issue, its breadth, its complexity, and its ramifications, require, in my judgment, congressional consideration and action.

The Constitution of the United States places on the Congress a responsibility for the formulation of national policy that it cannot avoid, and for this reason, Senator Jackson, I think I differ with the position that was suggested by some of the witnesses this morning, that this is an issue that could be dealt with really by the administration independently of the Congress, although I must say I agree heartily with the observation of Dr. DuBridge that the administration would welcome a statement of policy by the Congress.

But I think the Congress needs to do more in the shaping of domestic policy, and particularly the Congress is certainly co-equal in our constitutional system at present. I sometimes feel that in the past 20 or 25 years in which our country has been so heavily engaged in military exigencies and concerned with foreign affairs, we have lost much of the important leadership role that the Congress traditionally has played in the framing of legislation from the very beginning of the Republic. The President of the United States has had a nearly exclusive leadership role under the Constitution in the area of the negotiation of foreign affairs and as Commander in Chief of the Armed Forces, but only in these two areas does the Constitution place that unique responsibility on the President.

On matters of domestic legislation, the President must share with the Congress this role of policy determination. And I think for this reason that the Congress cannot avoid consideration of a problem so major as one which could be described as the survival of the United States. Maintenance, for example, of its life support system. If there is indeed an environmental threat that is as serious, as important to our internal security as our Military Establishment, as our foreign policy and Military Establishment are designed to cope with, deal with in foreign policy, then it seems to me the responsibility of the Congress is quite clear—it must act.

Now, we have heard discussion of the various ways in which the problem that we agree is important might be dealt with. The proposal that has been set before the committee by the witnesses for the administration has been that the President personally is prepared to play a major role in the shaping of environmental policy.

Now, this is certainly a highly desirable and encouraging thing, but I think many will ask, Can the President realistically be expected to play for a very long period of time and consistently a personal role in the consideration of the basis of environmental policy and in the alternatives to be considered?

Are we making the Presidency unmanageable?

There is a growing feeling among students of public policy in the United States, and I think among citizens generally, that we are increasingly placing upon the Office of the President responsibilities and burdens that no human individual can be expected to manage.

I bring to your attention by way of illustrating this concern an editorial by Normal Cousins, the editor of the Saturday Review, of about a year ago, April 13, 1968, in which he asks in an editorial, "Is the Presidency manageable?" Now, this concern, I think, is one that has been recognized by Presidents in the past and by President Nixon. He has, for example, according to a report, established a task force to consider the organization of the executive branch.

And it would follow, it seems to me, that action taken with respect to so major an issue as the environment should not impose upon the President personally responsibilities that are, in addition to those that he now has, nor should the President, I think, be encouraged to accept these responsibilities, particularly given the tremendous demands upon his time and attention which continue in the area of foreign policy and national defense.

But I would say that the problem of restructuring the Government and of designing new instrumentalities for public policy is not really a question of whether we should have a plan which is proposed by the administration or whether we should have a plan that is proposed by the Congress. It isn't a question, it seems to me, of either/or at this point. I think few would disagree that we need the various inputs, various concerns, and a kind of clearing-the-decks for action that Dr. DuBridge and others this morning felt were important.

We need the services that can be provided by the Office of Science and Technology, by the President's Science Advisory Committee, by the Federal Council of Science and Technology, by the Department of the Interior, and other agencies.

But in addition, I am sure that we need the involvement of the Congress. And we need somewhere in the structure an independent forum and focus for a review of the Nation's condition of the environment, a body that is capable of making assessment not only of our current conditions, but of presenting alternatives for coping not only with the problems that we know about that are before us now, but with problems that we have yet to face.

I might suggest that a great deal of money would have been saved and a great deal of damage would have been avoided in the case, for instance, of the detergent industry if we had had the foresight to recognize the effects of foaming detergents in water. We cannot afford to continue, really, to learn from experience.

And the question that I am sure which is in the minds of many people that have been skeptical about the full utility of a Council for the environment consisting of Cabinet officers is whether that body would be in a position to give the time and the attention to the longer range environmental needs of the Nation. Members of the Cabinet are extremely busy people. They have special responsibilities growing out of their own positions as heads of major departments. It seems to me quite unlikely that such a body would be by the very nature of things inclined to make decisions for itself by probing into problems that we have not already encountered.

So it would be my position that the proposals embodied in Senate bill 1075 and in similar bills that have been introduced by a number of other Senators ought to be given very careful consideration. At least the Congress should proceed to consider the advantages to be gained by an independent Council. And I move to ask where we would be in our management of our economic affairs if in 1946 we had attempted to accomplish the objectives of the Full Employment Act without an act, without a statement of policy. And Senator Jordan read this morning such a statement to us. If we had the statement of policy, how far would we have moved to implement it if we had not had the Council of Economic Advisers?

Now, one could argue, it seems to me, back in 1946 that we did not need an independent Council of Economic Advisers; that in order to get action what we really needed were the principal executive officers responsible for economic policy to form a Council, and the President could have named a Council consisting of the Secretary of the Treasury, the Chairman of Federal Reserve Board, and the Director of the Budget, and this could have been the Council of Economic Advisers. Well, it is, of course, conjecture to ask what would have happened in event that we had elected to pursue that course, but I would think it an optimistic view that we would have got the results that we have had. We have avoided a major economic depression in the period since 1946.

My final observation has to do with the need for a statement of policy. I think we have here two elements that were clearly brought out in the discussion this morning. One of them had to do with the nature of an implementing body in the executive branch. The question was whether that implementing body should be composed of members of the Cabinet. And I might suggest in this connection that the President, of course, can call together members of his Cabinet any time he wishes in any combination he wishes. One could argue in a sense that a special Council composed of certain Cabinet officers would be in any way redundant because they are at the President's disposal. He is free to call a Cabinet meeting at any time he wishes to do so on the problems of environment. But the question then of the implementing body is one upon which there does seem to be a difference at this point between the position taken by the administration and the position advanced in the several bills before this committee.

The other aspect of the issue has to do with a statement of national policy. And, I would say, this is the more fundamental decision, really, of the two at this point. It becomes very difficult for us to say how we should restructure the executive branch of the United States to deal with problems of environment until we know what kind of a policy this country intends to pursue.

Now, this leads me to make, really, two observations about the policy. First of all, I was happy that Dr. DuBridge agreed, and Secretary Hickel agreed, that such a policy would be welcomed by the administration. I have already suggested, it seems to me, that the Congress indeed has a responsibility to develop and could enunciate such a policy. But beyond this, I would urge that in the shaping of such policy, it have an action-forcing, operational aspect. When we speak of policy we ought to think of a statement which is so written that it is capable of implementation; that it is not merely a statement of things hoped for; not merely a statement of desirable goals or objectives; but that it is a statement which will compel or reinforce or assist all of these things, the executive agencies in particular, but going beyond this, the Nation as a whole, to take the kind of action which will protect and reinforce what I have called the life support system of this country.

Let me give you just a few illustrations of what I mean, by policy-forcing or operational aspect of a policy statement. For example, it seems to me that a statement of policy by the Congress should at least consider measures to require the Federal agencies, in submitting proposals, to contain within the proposals an evaluation of the effect of these proposals upon the state of the environment, that in the licensing procedures of the various agencies such as the Atomic Energy Commission or the Federal Power Commission or the Federal Aviation Agency there should also be, to the extent that there may not now exist fully or adequately, certain requirements with respect to environmental protection, that the Bureau of the Budget should be authorized and directed to particularly scrutinize administrative action and planning with respect to the impact of legislative proposals, and particularly public works proposals on the environment.

Now, these are what I mean by action-forcing or operational measures. It would not be enough, it seems to me, when we speak of policy, to think that a mere statement of desirable outcomes would be sufficient to give us the foundation that we need for a vigorous program of what I would call national defense against environmental degradation. We need something that is firm, clear, and operational.

I think, perhaps, Senator Jackson, that these remarks are sufficient at least to make clear the position that I take with regard to the legislation before the committee, but I would be happy to amplify on this or to answer such questions as you or the members of the committee might care to put to me.

The CHAIRMAN. Well, Dr. Caldwell, that is an excellent presentation, needless to say. I think you have been most constructive. I have been concerned with the inadequacy of the policy declaration in the bill that I introduced. Obviously, this is not enough. It does, however, provide a predicate from which to launch at a discussion as to what is required and as to how we should proceed.

I would like to pursue this policy matter for a moment. I agree with you that realistically what is needed in restructuring the governmental side of this problem is to legislatively create those situations that will bring about an action-forcing procedure the departments must comply with. Otherwise, these lofty declarations are nothing more than that. It is merely a finding and statement but there is no requirement as to implementation. I believe this is what you were getting at.

Dr. CALDWELL. Yes. Exactly so.

The CHAIRMAN. I am wondering if we might not broaden the policy provision in the bill so as to lay down a general requirement that would be applicable to all agencies that have responsibilities that affect the environment rather than trying to go through agency by agency.

I think the immediate example that comes to my mind and has to yours already by the statement is that the Atomic Energy Commission, in granting permits or licenses in connection with nuclear powerplants, should be required to make an environmental finding.

This, of course, might be applicable to the Federal Power Commission. One can go on down the list of agencies. I am trying to avoid a recodification of all of the statutes. Instead, maybe the Bureau of the Budget could be given the authority to deal with this problem in a broad discretionary way in which the agencies would be required both in quasi-judicial proceedings and in legislative comments to the Congress to meet certain environmental conditions. Would this make sense?

Dr. CALDWELL. I would certainly agree with that, Senator Jackson.

The CHAIRMAN. You see the problem that we are faced with: If we try to go through all of the agencies that are now exercising certain responsibilities pursuant to law in which there is no environmental policy or standard laid out, we could be engaged in a recodification of the Federal statutes for a long, long time.

But maybe there is a way out of this through a directive and a delegation to the Bureau of the Budget of authority which they could in turn exercise prudence and discretion in requiring that the environmental policies and standards be adhered to in connection with the responsibilities of the Federal Establishment.

Dr. CALDWELL. I agree with that. And this is another reason I think that we need congressional action on this. We need by resolution or statute, I think, specific action on the part of the Congress, because what we are talking about here in some cases is modifying or amending existing mandates to the agencies.

Now, in one sense we may say the President has a certain ability to do this, but I think when we are talking about, in fact, legislative mandates that have been enacted by previous Congresses there would be a good deal of resistance in the agencies to interpretation by the Bureau of the Budget or the White House that certain things should be taken into account unless this was also reinforced by congressional action.

The CHAIRMAN. Well, for example, the President certainly couldn't intercede in a quasi-judicial proceeding and advise, whether it is the Federal Power Commission or the Interstate Commerce Commission, or the AEC, when it is exercising its quasi-judicial responsibilities as to what standards they should follow.

As a matter of fact, they could get into litigation in court, and it would certainly be no defense for the agency to claim that they were acting pursuant to an Executive order; they would have to point to statutory authority which gives them the authority to deny a permit or a license under a certain set of circumstances.

Dr. CALDWELL. This is quite true. We are, I think, misled as to the power of the President, because we so often focus upon his powers in the field of foreign affairs and military policy.

Now, on domestic issues, the President is by no means the all-power-

ful figure that he is when we step beyond the continental limits of the United States. And I think you may recall that a President of the United States, Woodrow Wilson, when he was a college professor, wrote a book called "Congressional Government."

He wrote this after a long period following the Civil War, in which the United States had not had a great deal of foreign involvement, and this was a period in which the power of the Congress in relation to the Presidency was very great. And as we turn increasingly, as I am sure we must, to solve some of these domestic problems that we recognize in the United States, I think we are inevitably going to encounter once again the power, the influence, and the leadership of the Congress. And it seems to me we ought to face this realistically, that if we fail to be instructed by history, by the experience of previous Presidents, in attempting to deal with certain domestic issues without benefit of the support of the Congress, I think we would make a serious mistake which would be most unwise on so important an issue.

I would like to make another remark also with respect to the difficulty of conceptualizing the term "environment." Dr. DuBridge spoke about this at the beginning of his remarks this morning. One of the things it seems to me that we really constantly need to keep in mind here is when we speak of the environment, we are not really talking about the things out there, about all of the forces really that impact upon people. This is a part of the environment. But when we speak of the environment, basically, we are talking about the relationship between man and these physical and biological and social forces that impact upon him. A public policy for the environment basically is not a public policy for those things out there. It is a policy for people.

There are organizations and individuals who are so concerned about the preservation of the aesthetic and natural history, scientific assets that we have in our environment. They are called preservationists. Now, I don't disparage this term. I like to think of myself also as a preservationist, a preservationist of people. And really, this is what we are concerned about. If we conceive of this environment, you see, as the life support system of the Continental United States, we are talking then about not only a policy that affects these physical things but basically we are concerned about them because they make all the difference in the world to our own prosperity, happiness, health, and even survival.

So I think in the shaping of a policy we need to be clear that our concern basically here is with man and that when we talk about the implementation of policy, we are talking about the behavior of men, men organized through the Government agencies, through industries and various kinds of associations and people as individuals, to the extent that we can through national policy, through education, through political action, tend to internalize attitudes, to induce attitudes and values in the American people that will look upon this environment with the same degree of concern and care that an astronaut would look upon the environment in his space ship.

Then I think we are going to see that many of the problems that seem to be so difficult to deal with now will not be so difficult to deal with.

It is my judgment, Senator Jackson, that at the present time the American people are well ahead of the Congress in their willingness

to accept new legislation and policies and some tough ones with respect to the environment.

Dr. George Gallup reported recently here in Washington on a poll that his organization had taken in January about the willingness of the American people to make financial sacrifices and to pay higher taxes, to be subjected to controls, if necessary, to preserve and improve upon the environment condition. And he got a very affirmative response, particularly from the younger voters, and he also got a reaction that an overwhelming majority of the people now living in our large cities would get out of them if they could, the environmental conditions being that bad.

From their point of view——

The CHAIRMAN. I think 85 percent of the people that were asked the question, "Where would you like to live," responded by saying they would rather live in a small town or in a rural area away from the large metropolitan area.

Dr. CALDWELL. I think this is quite clearly the case. The people, I would say, at present are ahead of the Congress, and the Congress, it would seem to me—and this is a subjective view—is ahead of the Administration, at least the leadership in Congress has been ahead of the Administration on this.

Now, I think it is hard in many ways for the Administration to act, because what is the Administration? Well, it is not only the President, of course, and his immediate advisers, but it is a large number of agencies that we have created over a long period of time, and we have done this in sort of an ad hoc manner—when we needed the AEC or the Space Agency, we created them.

Now, we have a report, for example, from the Marine Science Council proposing a new agency for oceanic and atmospheric science.

In my prepared statement for the Committee, I have argued that it would be ill-advisable to proceed at this point with the creation of new ad hoc agencies. This, one might think, would apply to the creation of a Council possibly such as that proposed in your bill and that of the other Senators concerned with this problem. I think not so, because the kind of Council proposed in Senate Bill 1075 is not basically an administrative body. It is not set up to carry on new kinds of programs that have to be coordinated with other agencies. It is intended to provide for the independent review of the existing environmental state of the country.

I see in the Administration proposal a fundamental difference in concept of the function of this high-level Council, fundamental difference between the view that appears to be held with respect to its functions and those that I find in your bill and that of the other Senators.

I would think that the independent agency here alone can be counted upon to provide the inputs of time and attention and to raise the difficult and inconvenient questions.

The President, the members of the Cabinet, are extremely busy people. It seems to me highly doubtful that, as I suggested earlier in my remarks, they can be counted upon to make their own lines more difficult. And let me add this additional observation about the responsibility of men and women who would serve on such a Council as your bill proposes.

I would suggest that this is a very tough assignment, that people

who—in fact, I think I may have suggested it in my remarks to the Committee. If not, I have certainly suggested elsewhere that I thought service on such a Council would probably preclude a future political career for a person who would accept it, because I think—

The CHAIRMAN. You were making a very perceptive political statement.

Dr. CALDWELL. I think we are going to have to make the tough decisions and precisely for the reason that Senator Nelson mentioned this morning in his doubt, for example, that the Secretary of Agriculture would take a very strong line against a policy which his own agency people were pushing, not only his own agency people but many of the large farm organizations might be supporting.

The CHAIRMAN. Well, there is a basic conflict of interest between the agencies and it seems to me that where you are dealing among equals you are going to end up with the least common denominator. Each agency will want to water down their own problem, and they will want to hold on to what they have. And I observe further that it is going to be difficult for them to lay down standards for other agencies.

This is what they would be required to do if the President is going to get the kind of advice, or if he is going to be given a set of alternatives or options from which he is to make a judgment. I think it has a built-in conflict that is adverse to a proper decision on the part of the President. You need an adversary proceeding, which can only take place by some kind of a group that is directly associated with the Office of the Presidency, don't you think? I just don't see how this can be done otherwise.

Dr. CALDWELL. I agree thoroughly. Let me also add that at a meeting held not long ago here in Washington there was a discussion of the effectiveness of interagency committees to resolve issues among Departments.

Now, the observation that was made did not apply particularly to Cabinet-level committees, but it applies to all committees, and the observation by a member who had been a member of many such committees was this: that in inquiries that had been made here in Washington as to the number of these committees and how they functioned, it had been discovered that, first of all, nobody really knows. You asked the question, I believe, this morning, where are they? How many are there that are functioning? After an informal study, I think informal, had been made of these committees, it was observed that none of the really important issues got settled by the committees. All of the real important issues were taken out around behind the Committee, of course, to the White House or the Bureau of the Budget.

Now, the question that we keep coming back to, I think, is how many of these questions should the President of the United States be asked to resolve, and can we realistically expect that he will resolve them, or will they, in fact, be resolved by, let's say, a third echelon staff member in the Bureau of the Budget?

Now, I don't say this in any cynical manner. I don't say it in any way to disparage the dedicated attitude or the competence of the men in the Bureau. I have a high regard for them. Many of them are friends of mine. But we don't know who makes the decision. We say it is the President's decision.

Now, the issues of the environment are not only going to be tough to resolve from the scientific and technical point of view, they are going to be very tough to resolve politically. I can think of a half a dozen of them right now, and I am sure you can, that are going to create very real tensions for men in the Congress and for the executive agencies, and yet we need to arrive at some kind of intelligent decision.

I think these things are too important really to be resolved at levels so far down in the administrative hierarchy that we have no way of making an assessment of what kind of analysis went into them. It is not customary under our constitutional form of government for us to question the President on these things if the President makes a decision. And so I must say I do not have the optimism that has been expressed by some of the witnesses this morning about the good intentions of the President in this respect. I do indeed, I think it is most heartening that the President has shown this interest and he is willing to make the effort to do this. I think in any case his involvement is essential, but I would say, Senator Jackson, that I do not think it can be enough under the circumstances. I don't think realistically we can expect that the President of the United States can make this kind of assessment. He needs the kind of help that your bill would provide.

The CHAIRMAN. I appreciate your comments, Dr. Caldwell. I would like to say that as chairman of the committee that I will be calling on you for some specific language to implement what we have discussed here this afternoon. It seems to me that the policy problem falls into two categories: First, a broad statement of environmental policy that would apply to all of the governmental departments, with the Bureau of the Budget in a position to stipulate that when proposals come over, that they must meet certain environmental policies and standards.

I think the other area relates to quasi-judicial proceedings where independent agencies are in a position to grant permits and licenses for activities that potentially have an enormous impact on the environment. Perhaps we could work out some kind of a general statutory provision that would be applicable to all quasi-judicial proceedings.

Do you think that this is a valid distinction? I am trying to——

Dr. CALDWELL. I think it is.

The CHAIRMAN. Look at this from the standpoint of a general statute so that we do not get involved in the tedious task of going through the enabling legislation of every agency of the Government and trying to amend a long list of laws.

Dr. CALDWELL. No. I think there is a great deal of logic and practical wisdom in the approach that you suggest.

Let me add another element that we have not yet discussed in these hearings, but I think it ought to be mentioned.

I did mention that the President has appointed a task force to consider the organization of the executive branch. There have already been suggested changes in the structure of the executive branch which would, in fact, create a new kind of department to deal with these environmental issues, recognizing, of course, that no organization plan can bring all of the environmental matters under one roof, but that to some extent these problems of coordination and of getting an implementation of policy is consistent with policy on the environment.

For example, a good deal of our difficulty at the present time comes from an organization of the executive branch that is widely recognized as very faulty, very inadequate, and the President himself evidently recognizes this inadequacy. In the months ahead apparently the President will have a task force that is concerned with this problem, but ultimately the Congress is going to have to consider executive organization measures.

From the very beginning, from the time of the Washington administration, the Congress itself was concerned with the organization of the executive branch. It is quite consistent with our political and constitutional tradition. So I think, in addition to the concept that you have advanced here of general statutory standards of guidelines for action in lieu of the almost impossible task of screening the legislation of many, many agencies and our bureaus, in addition to that—and I certainly agree with you—we also need to take cognizance of the way in which the executive agencies are themselves structured. We need to keep in mind, I think, that these agencies have been put together over a period of decades essentially for ad hoc purposes, that they have been put together without very much general consideration of what the large missions of the Federal Government are. They have often been put together without much regard to the relationship of the role of the States.

We have said very little about that. Indeed, I think one of the important advantages of a Congressional statement on the environment is to also give some indication, perhaps some consideration in this legislation, if it is appropriate, to the role of the States that, after all, are very close to many of these issues but really cannot act effectively in the absence of a general national policy, particularly when many of the Federal agencies such as the Corps of Engineers, to name one example, the Bureau of Reclamation, the Forest Service, or the National Park Service, have certain important jurisdictional priorities with respect to lands and resources.

So I think as a closing observation here, I would like to suggest that the whole question of administration organization is relevant to the deliberations of this Committee on this legislation.

The CHAIRMAN. Thank you.

We will be calling on you for help, and we want to express to you our deep appreciation for the many, many contributions you have made in this field, especially remembering the fine work in connection with the colloquium in July, and what you have since done and what you have done long prior to that period in laying a fine groundwork for thoughtful discussion of this problem.

We will be calling upon you for some help before we get this bill out of committee.

Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

Dr. Caldwell, I want to compliment you on a very fine statement and an able presentation of this matter here today. You have made a very strong case indeed for the need for a national policy for the environment, and I think that that is one thing that the administration lacks in its proposal in spelling out the objectives that we seek and the criteria for achieving those objectives.

You make a very strong case for that, and I think that the admin-

istration witnesses here this morning have about concluded that they needed that kind of statement of policy in their own program.

Now, as we come to the implementation of such a policy, there have been several suggestions, including the interagency device and in the Chairman's bill setting up a council comparable to the Council of Economic Advisers, and there is still a third device that might be implemented with greater freedom altogether, and that is a council perhaps set up like the Federal Reserve Board, with almost complete independence.

Your suggestion that people might serve better if they were removed from political pressures might make a greater independence desirable in this area. Would you agree to that?

Dr. CALDWELL. I would agree with that, Senator Jordan. As a matter of fact, I have expressed some reservations about the legislation for the committee in placing the Council on Environment in the Executive Office of the President.

Now, there is a question here, it seems to me, of whether the President ought to have the full initiative, the freedom of exercising his own Executive Office, and the extent to which the Congress should attempt to guide the President in that organization.

While I wouldn't want to commit myself to an opinion here as to specifically how this ought to be handled, I would certainly think, in the further consideration of the environmental policy legislation before this committee, that the possibility of such an independent agency ought to be considered. It may be relevant, for instance, to observe, in the hearings before the House of Representatives Science and Astronautics Committee, the Subcommittee on Science and Research, chaired by Congressman Daddario, that there was consideration of what was called the Technology Assessment Board which, in the views of Congressman Daddario, would have a major concern for the effective technology on the environment.

I have not looked at that proposal recently, but, as I recall it, the Technology Assessment Board was set up somewhat under the same kind of status as the General Accounting Office.

Senator JORDAN. Yes.

Dr. CALDWELL. That is to say, it was responsible to Congress but also to the President. It seems to me that at the moment, I am not quite certain as to whether there may be as many disadvantages in having such a Council in the Executive Office of the President as there would be in having it an independent agency.

The argument is, of course, that it needs to be close to the seat of power, the seat of action—the President. On the other hand, even if it is in the Executive Office of the President, it won't be effective unless the President really wants to use it. If it is in the Executive Office of the President, the question does arise as to the privileged character of its communications. Would it be subject, for example, to question by the Congress? In my judgment, it should be.

Senator JORDAN. Yes.

Dr. CALDWELL. The kind of issues with which it is going to deal are going to affect the lives and property and health of the American people too closely to have it cloaked with an immunity to question by Congress.

Senator JORDAN. This is an area that can very well be explored—

Dr. CALDWELL. Yes.

Senator JORDAN (continuing). To see where that responsibility should lie, to whom this Council, or whatever you call it, might report and be responsible.

Dr. CALDWELL. I am not unmindful of the important leadership role of the President in these matters, but I must confess that I feel that we have perhaps moved a little too far to a position of an almost exclusive reliance upon the President or the White House, as we say, for leadership and guidance in these matters. And it seems to me that the country is too big, the issues are too complex, to make this a realistic attitude. And we do not yet have, even in the President, a superman.

Senator JORDAN. We want to be insulated against the President who might come who was indifferent to the cause and thus stymie the program.

Dr. CALDWELL. Presidents come and go, but we are talking now about an issue of public policy that is a continuing issue. And if it is true, as some critics have said, that you can't expect the Congress to rise to the level of statesmanship and responsibility there because of its local parochial views, and so on, I think this is a commentary on our form of government that would require reexamination in the light of historical circumstances.

I have already indicated to the Committee that we can look to various periods of American history in which the Congress has shown great capabilities for leadership. The idea, for instance, here of an agency that is independent in some respects of the Executive Branch does not disturb me as long as Congress has enacted a kind of policy that is clear and operational and as long as the relationship between this Council and the Executive Branch is worked out to avoid unnecessary friction.

But let us be quite realistic. If we have such a Council there are going to be times when there is going to be friction. Such a Council is going to have before it findings and reports which heads of Executive Agencies will not like.

Maybe these are considerations that at least ought to have an airing, ought to be discussed. It seems to me much more likely that they will be discussed in this independent Council than they will be discussed if you have a Council composed of Cabinet officers who, out of courtesy to one another, or concern for the troubles of their fellow Cabinet officers, are not going to make their own life more difficult, you see.

And then, of course, we have the question of the agencies that are not represented on the Council at all as proposed by the Administration.

Senator JORDAN. That is right. Well, I shan't question you further. I hope you will give us some time and help us write a policy statement that will contain criteria that will be necessary to implement this and keep it going.

The CHAIRMAN. Thank you, Senator Jordan.

Senator Stevens, questions?

Senator STEVENS. No. Thank you very much.

The CHAIRMAN. Senator Bellmon.

Senator BELLMON. Thank you, Mr. Chairman.

Professor Caldwell, you just made, I think, a very good point, and that is that an independent Council would perhaps permit more free discussion than a Cabinet-level Council might. But do you feel that

if the Congress were to give the Department of Interior the authority it needs to handle responsibilities in the field of our own environmental problems that this would in any way limit discussion?

Dr. CALDWELL. As the Department of Interior is presently organized—well, my personal view is that this would perhaps not be the best way to implement the kind of environmental policy that it would seem to me that we need.

Now, I know that the present legislation before the Committee, the bills by Senators Jackson, Nelson, and McGovern, do place upon the Secretary of the Interior responsibility for implementing a policy of increased research, survey, surveillance of the environment, and we also heard the Secretary of Interior this morning indicate that the Department, as now constituted, would find it difficult to do this, that it would be willing to do it but that it would require new funds, new personnel.

The Department of the Interior had an Office of Ecology some time ago which it discontinued. I don't know what the reason for the discontinuation was. But the point that the Secretary made, I think, was well taken about the relations between Interior and co-equal departments, that for Interior to attempt to obtain information from other departments, and even though the legislation indicates that the other departments should provide it, again there is a question of the extent to which, indeed, they can be persuaded or compelled to do this. There is a real question in my mind as to the feasibility of Interior dealing with those aspects of the environment for which its own mandate, its own staff, have no unique competence.

I think some of the objections that would go to the placing of the survey and research responsibilities in the Department of Interior are the same as are made with respect to placing them in the Office of Science and Technology, that we are not organized, Senator Bellmon, at the present time to deal with these complex environmental problems and the way in which they interrelate.

If you were to ask me what would be a better way to do it, I think I would be inclined to say that such an organization for survey and research, if it has to be created *de novo* in any case, why not place it under the staff of an independent Council on Environment, and then give it the necessary mechanisms for drawing upon the Office of Science and Technology and the Department of Interior and the Environment Science Services Administration and the National Institute of Environmental Health and the Corps of Engineers; that is, we have tremendous sources in the Federal Government for attacking many of these problems of environment.

I think our deficiency does not lie really in our technological competence. We have in the Corps of Engineers, for example, in the Bureau of Reclamation, to take just two agencies, some superb engineering skills. What is required is our ability to direct them to the points of greatest need. And these, I think, we can see increasingly on the problems. Environment degradation, the problems of cities are not the problems of 50 years ago; they are the new problems.

Now, I think if we could create—I mean, the Congress has to appropriate in any case the funds to do the job. It ought to be at least open to review where the funds are put.

One additional consideration seems to me for putting them under an

organization like the Council on Environment is a very practical one. That practical consideration is the political liability of such a Council. It would have, of course, the support of conservation groups throughout the country. It would have the support, I am sure, of people in the field of medicine, environmental health, various phases of engineering concerned with this problem.

But I think that if it had the financial muscle, it could make contacts of its own for study and to negotiate special studies through the White House, for example, with the Office of Science and Technology, or to draw upon our resources in the private research and development sector. We have capabilities in the aerospace industry, for example, for dealing with many of these environmental problems.

I am reminded that the Governor of California several years ago undertook four studies, I think, using our aerospace capabilities to deal with environmental problems. They were not all environmental problems. One was on waste disposal. Others dealt with other aspects of public life. But such an organization as a Council on the Environment could perform these functions without the disadvantages, it would seem to me, that could be incurred by placing it in agencies such as the Department of Interior.

I am not saying that the proposals now in the legislation pending before this committee ought not be implemented, but what I am suggesting is that if the possibility of putting these functions directly under the Council has not been considered, it might be worthwhile to consider it, particularly in view of the testimony this morning from the Secretary of the Interior concerning certain of the problems that such a change would create.

I think quite possibly when Senator Nelson, for example, first introduced his ecological survey and research bill that at this point the notion of a high-level council such as is proposed now in the legislation had not fully come into view, and at that point the Department of the Interior seemed to be the logical place. And when it comes to operation such as, for example, the air and water pollution, the idea of bringing these together in a more coherent relationship, I think that's a different question.

Senator Jackson remarked this morning about the need for more coherent interrelating of these functions, and I agree with that, but I think on the question of undertaking this business of surveillance and research and survey, that it does not follow that the Department of the Interior is uniquely suited for this. It certainly could do a job here if that seemed to be the only possibility, but it does not seem to me to be the only possibility and perhaps not the best possibility.

Senator BELLMON. Professor, I believe it was Senator Nelson this morning who pointed out that many of the departments in the Department of the Interior already deal with environmental questions. Now, is it your thought that some of these should be moved away from Interior into the commission we are discussing in case it is established?

Dr. CALDWELL. No, I know of no agency in Interior presently that would be moved out. As I say, there was an Office of Ecology which was established. It did exist for a period of time in the Department. Mr. John Buckley, who is now with the Office of Science and Technology, was in that office, I believe. The office was looked upon, I

think, among conservation groups throughout the country as a very desirable thing. I am not quite sure why the Department of the Interior discontinued it, but this is the only kind of an agency currently in the Department of the Interior that would, it seems to me, had it persisted in the Department, be moved under some new such agency, but I can't see that the operative agency ought to be changed from Interior.

Senator BELLMON. What about the Water Quality Control function of the Department of the Interior? Would it stay where it is?

Dr. CALDWELL. Well, I should think it ought to stay. Any operative agency, it seems to me, ought to stay within an operating department. In other words, I would not think that such a Council as has been proposed in Senate bill 1075 and other similar legislation should have operational responsibilities. I do not think that such a Council should itself set the standards or should issue directives or review State actions, for example, with a view to making certain determinations that would have legal effect, have the force and effect of law.

This is not to say that such a council should not review what the States have done here and make recommendations to the President and to the Congress about what they find, but I would not think it desirable to remove from any of the operating agencies any of their what we call line functions, although I would certainly agree with Senator Jackson's remarks that we might have a better organization under them than we now have. But this is a difficult question because, as you know, there are a very large number of agencies, and at least six of the Federal departments have major environmental responsibilities, and, of course, we have a number of independent agencies such as the Atomic Energy Commission and the Space Agency that have environmental responsibilities.

It think it quite inconceivable, even if we have a major superdepartment, let us call it, for the environment of natural resources, that we would bring all of these environmental functions under one roof. I mean, it is not necessary nor desirable to do that. But whatever we do in the area of administrative organization, we ought to make a distinction between advisory, factfinding and analytic functions and those that involve the actual implementation of policy. It seems to me the Cabinet agencies, the line departments, are the ones that have the responsibility for action. The kind of agencies, the kind of functions that we ought to vest in an independent council are those of factfinding, analysis, advice, high-level visibility of the issues, to give the American people and the Congress a chance to see what the alternatives are so that we can make intelligent decisions. For example, if after considering all the factors with respect to the degradation of Lake Erie, if the American people decide they want to pave it over and make an airport of it, they know what they are doing at any rate, they know what the costs are. We don't go into this sort of thing simply by accident or inadvertence.

That is a function, it seems to me, such a high-level council should perform and not one of specific policy implementation.

Senator BELLMON. You heard Dr. DuBridge this morning make a comment about the device that could be installed on an automobile to diminish the amount of smog in Los Angeles. Do you see the Council we are discussing here as having a role in a decision of that kind?

Mr. CALDWELL. Yes. I think, of course, we already have action going on in the Public Health Service and other agencies, such as the Department of Transportation that are concerned with this problem. You know there are a great many things that can be done with our immense resources and science and technology if we really organize to do them. Now, to ban the automobile in Los Angeles is not the only problem, nor is it a problem merely to get rid of the internal combustion engine if we have, for example, another means of providing transportation, for instance, the electric automobile. So there are many technical alternatives that could be explored and developed if we were organized to obtain this kind of focus. I think this is the kind of responsibility that we are talking about when we think of the functions of this high-level Council on Environment.

Senator BELLMON. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Professor Caldwell, we want to say thanks again for your invaluable contribution today, and what you have done in the past, and we are looking forward to your help in connection with the drafting that will be required in getting an appropriate bill before the Senate.

Thank you very much.

Mr. CALDWELL. I will be glad to help as needed.

Thank you very much.

(The prepared statement referred to follows:)

STATEMENT BY LYNTON K. CALDWELL, PROFESSOR OF GOVERNMENT,
INDIANA UNIVERSITY

MAJOR ALTERNATIVES FOR INSTITUTIONAL REFORMS DESIGNED TO IMPROVE THE GOVERNMENT'S CAPACITY TO MANAGE THE ENVIRONMENT

The question at issue is this: How should the federal government be restructured to deal more effectively with the growing stress upon our natural environment?

The term "environment" includes the life-support system of our nation and of all the earth—the system of interactions of people with the air, water, land, and living organisms that comprise the biosphere—the interactions of those elements in our world capable of sustaining life. And although our immediate concern is with environmental policy in America, that policy must permit our nation to play a constructive role in international efforts to safeguard the biosphere of the whole earth. For this sphere of life, as we have now perceived it from outer space, is an ecological unity. All men, together with all other living things, depend upon its self-renewing capabilities for their continuing existence.

There is general agreement, here and abroad, that the issue of man's environmental relationships is growing in importance. But how important is it? (As important as military defense or foreign affairs?) What is its priority in relation to other needs of society? (To social welfare, civil rights, or economic growth?) What kind of problems does the environment present? (Scientific, technical, social or a mixture of these and other elements?) Answers must be given to these questions before intelligent decisions can be made regarding institutional reforms. Differing proposals have been made for dealing with environmental policy at the national level. But in order to choose wisely among these alternatives, a judgment must be made regarding the purposes and priorities of government action.

Clarity of policy and action would be served if this judgment could be made explicit. No general statement of national responsibility for the protection of the environment has yet been adopted by the Congress. But on July 17 of 1968, the Senate Committee on Interior and Insular Affairs and the House of Representatives Committee on Science and Astronautics sponsored an informal joint colloquium on "A National Policy for the Environment." A special report on environmental policy was prepared for the Senate Interior Committee

in connection with this conference and has been appended as Exhibit I to Senate Bill 1075. [Congressional Record, February 18, 1969 S. 1780 *et seq.*] In its preamble the Bill itself sets forth a policy to:

of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources, and the environmental forces affecting them and responsible for their development and future well being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research."

If the Congress were to adopt an explicit statement of policy, as it did in the Employment Act of 1946, choice among alternative proposals for environmental administration would be facilitated. An adequate statement of policy would provide criteria for determining what type of organization and procedure would be required to make the policy effective. Such a statement would, or should, provide a clearer indication than we now have of the importance attached by the Congress and the American people to environmental policy in relation to other issues. In the absence of a statement of policy on which majority agreement has been reached, we have no consensual basis to support a positive program of environmental administration. Meanwhile, we can only guess at the degree of priority attached to environmental policy by the sponsors of specific legislative or executive proposals.

Current proposals for institutional change can best be understood if grouped by the several categories into which they logically fall. These categories represent differing perceptions of the environmental issue, its importance and its relation to other issues. The categories are also, by implication, responses to the question: Is man's relationship to the environment *in itself* a major focus for policy or is it important primarily in relation to other issues? The greater number of proposals introduced into the 90th and 91st Congresses have assumed the protection of the environment to be a very major aspect of national policy, although obviously related to other policy areas as, for example, to agriculture, urban affairs, and recreation. Within this general category of environment as a distinct policy focus, there are three sub-categories of institutional reform which we will presently examine. But there are two other categorical approaches to the environmental issue in which it is included under other policy objectives.

The first of these includes the state of the environment under a continuing assessment of national social accounts. Within the social accounts category, environmental factors would be considered in relation to conditions of health, poverty, education, population dynamics, and human resource problems generally. There are important environmental aspects in all areas of social concern, and it would not be inappropriate to consider them under the social accounts category. Yet it may be argued that the primary focus of social accounts is upon man-to-man or group-to-group relationships, and that these constitute a large and complex field of concern quite apart from the equally large and complex field of man-environment relationships. Advocates of a separate organization for environmental policy argue that a national system of social accounts should not attempt to embrace environmental factors *per se*, but should deal with them only as inextricably related to human resource problems. The separate policy advocates fear that, in a merger of environmental and social concerns, the less understood, less generally apparent, environmental problems would be slighted in preference to the types of social issues and conflicts with which the public and its political representatives are historically more familiar. Moreover it is contended that the types of knowledge and judgment necessary for policy analysis and advice differ as between social and environmental concerns to an extent that separate organizations for each would better serve the public interest.

The second approach to the environment as an aspect of another area of policy is to bring it into the federal structure for science and technology. To some extent this has already been done. The Office of Science and Technology and the Federal Council for Science and Technology have studied environmental policy questions and the President's Science Advisory Committee has issued at least two major reports on environmental policy issues [the reports on *The Use of Pesticides*, 1963, and *Restoring the Quality of Our Environment*, 1965.] On the occasion of President Johnson's Message to Congress on Natural Beauty [February, 1965], he instructed the Directors of the Office of Science and Technology and the Bureau of the Budget to recommend how the federal government might best organize its efforts toward advancing scientific understanding of

natural plant and animal communities and their interactions with man and his activities. On January 24, 1968, in a joint memorandum for the President, the Directors recommended that the Office of Science and Technology assume responsibility for maintaining an overview of this policy area and assure the necessary coordination among agencies with the scientific community. The recommendations comprising Part III of the memorandum deserve careful attention. They correspond generally to those incorporated in the Congressional proposals, presently to be discussed. No "independent" advisory committee was suggested in the memorandum, although a joint federal agency-academic planning group was recommended for guiding ecological research.

President Johnson does not appear to have acted on this recommendation during his remaining year in office. The substance of the report reappeared, however, in a new memorandum, presumably prepared by staff in the OST and BOB and submitted to President Nixon by his Science Adviser, Dr. Lee Alvin DuBridge, on February 24, 1969. On March 17 the *Washington Post* reported pp. 1, 3 that President Nixon was considering designating his Science Advisor as Executive Secretary for a cabinet-level inter-agency Environmental Quality Council, with the Office of Science and Technology providing staff support. Reaction to this proposal, outside the Executive establishment, has ranged from cautious to skeptical. Four serious questions have been raised regarding this proposition. *First*, is environmental policy not broader than science and technology, involving questions of value—of economics, esthetics, and ethics for which scientists and engineers have no distinctive competence? *Second*, is the addition of environmental policy responsibility to the duties of officers and agencies primarily concerned with other issues adequate provision for the task? Or does it represent a convenient, non-committal disposition of a political issue that is perceived in the Executive Branch as troublesome, but of relatively low priority? *Third*, is there any real promise that a cabinet level council, chaired by the President or Vice President would ever function as proposed? To observers wise in the ways of bureaucratic behavior its Interagency membership suggests a role of mutual adjustment and accommodation rather than an uncommitted review and assessment of alternative courses of action. *Fourth*, and last, would the Congress and the country have as much confidence in organizational arrangements tied closely to the politics and personality of the incumbent President as they would in an organization created by the Congress and staffed independently of any other agency affiliation?

Answers to these questions will differ among respondents. It is however a safe surmise that very few persons who have been deeply concerned and involved in environmental policy issues would consider this arrangement adequate to the task. It offers little that is not already available in the federal executive establishment. The President can convene his cabinet on issues of the environment or of any other area of policy. We have already noted that there is nothing new in the concern of the OST with technoscientific aspects of environmental policy. But to undertake coordination of the ecological aspects of environmental research and policy would either disproportionately weight its emphasis in this area to the possible detriment of other areas of science or, more probably, would result in insufficient attention to its ecological responsibilities.

This objection might in part be obviated if the OST were to become the nucleus of a greatly enlarged cabinet level Department of Science and Technology. The departmental proposition has been under informal discussion for a number of years. [E.g., Carl F. Stover, *The Government of Science*, 1962]. It was recently broached by retiring science adviser Donald F. Hornig in an address at the 1968 Annual Meeting of the American Association for the Advancement of Science. But the objection that environmental policy embraces more than science and technology would remain. Moreover the examiner of United States science policy for the Organization for Economic Cooperation and Development cited environmental policy as an area in which American science had *not* been notably successful. "There is little sign," wrote Examiner C. D. Waddington, Professor in Edinburgh's Institute of Animal Genetics, "that U.S. scientists concerned with grand strategy have been thinking about . . . how we can ever develop a really scientific approach to creating an environment and social organization in which human living will be at the best level of physical well-being . . ." Examiner Lefèvre, former Premier of Belgium, remarked that environmental problems are harder ". . . to tackle systematically, on the scale required, than to solve technical problems." In sum, the prospect of developing an adequate administration of environmental policy as an aspect of science and technology does not seem promising. [Cf., *Reviews of National Science Policy: United States, OECD*, 1968].

But to return to the Office of Science and Technology as presently situated, what of the contention that environmental policy is not likely to flourish unless administered close to the seat of power in the White House? To argue that the President, personally, will give more attention to an arrangement of his own creating than to one "wished upon him by the Congress" is to conjecture beyond available evidence. The unique powers of the President extend primarily to foreign and military affairs; on domestic issues he must, in greater measure, collaborate with the Congress. For nearly a generation, the President has been preoccupied with wars, hot and cold, and with America's international involvements. Environmental issues are preponderantly domestic and few of them can be resolved without Congressional cooperation on matters in which the Congress has not customarily deferred to the White House, as it often has on matters affecting the command of the armed forces and the negotiation of international agreements. In short, it is more important that a Council on the Environment, as proposed in S1075 and several other bills now in committee, have a closer rapport with Congressional attitudes and responsibilities than is necessary, for example, in the case of the Presidents Science Advisory Committee or the National Security Council. Presidential leadership is in no way diminished by the Congressional proposals on the environment but, consistent with the theory of the Constitution, the President shares responsibility with the Congress on matters of civil and domestic policy. Therefore, with one exception, all other proposals for environmental policy implementation assume a base of governmental responsibility that is broader than the Presidency.

This exception is the reported, not unpublished, recommendations of President Nixon's task force on environmental policy headed by Russell E. Train, then President of the Conservation Foundation, now Undersecretary of the Interior. The account of the task force recommendation appeared in the *New York Times* of January 12, 1969, and has been reprinted in the *Congressional Record* as Exhibit 3 of Senate Bill 1075 [February 18, S. 1794]. The task force was reported to have recommended a cabinet-level interagency Council on the Environment, (comparable to that reported to be under consideration by President Nixon in connection with the proposal to treat environmental policy primarily as an aspect of science and technology). But the task force recommendation differed in a very fundamental respect from the Office of Science and Technology proposals of 1968 and 1969. Urging that "... Improved environmental management be made a principal objective of the new administration," it recommended that the President appoint a Special Assistant on Environmental Affairs, who would also be Executive Secretary to the Council on the Environment, and who would presumably give full time to this assignment. The President's Science Adviser was indicated as one of the officers with whom the new special assistant would closely work. The task force, therefore, appears to have perceived the environment as a focus for policy in its own right, rather than as a special aspect of science and technology.

The Nixon task force proposal falls into one of three categories into which may be grouped those alternatives for institutional reform which are premised on the environment as a major focus for public policy, unsubordinated to social accounting or technoscientific considerations. With an important reservation, the following three categories of proposals reflect an ascending sense of importance and urgency on the part of their sponsors. The reservation is the judgment of individuals as to what at any given time is politically feasible. In general, conservative and adaptive reforms are more feasible than novel or drastic measure. Surgery may be what the patient requires, but it is usually easier to persuade him to accept medicine. It would therefore be incorrect to conclude that the sponsors of more conservative proposals, such as the reported task force recommendations, would not favor stronger measures if they believed them to be obtainable.

The categorical alternatives to institutional reform for the environment as an independent focus of public policy are these:

a. Presidential Special Assistant plus cabinet level interagency council (reported to be the recommendations of the Nixon task force).

b. High-level council, independent of the executive departments but located administratively in the Executive Office of the President, plus a far-reaching program of environmental research and surveillance in the Department of the Interior, and requiring annually or biennially a report from the President to the Congress on the state of the environment. (Senate Bill 1075 and several similar proposals in the Senate and House of Representatives.)

c. Major departmental reorganization taking one of several forms:

(1) A moderate reorganization of the Department of the Interior as a Department of Natural Resources (e.g., transferring the Forest Service and the civil functions of the Corps of Engineers into the reconstituted department).

(2) A new specialized technoscientific agency for environmental research and engineering development, such as that recently recommended by the National Commission on Marine Science, Engineering and Resources.

(3) A new super-department of the Environment and Natural Resources based roughly on the model of the Department of Defense, primarily for planning and coordinative purposes, and probably associated with a major restructuring of the entire Executive Branch.

The first of these alternatives has already been discussed; our attention will therefore be directed to the two remaining groups of categories.

The first of these categories calls for a high-level council on environmental policy to be situated in the Executive Office of the President. A near variant is Representative Emilio Q. Daddario's proposed Technology Assessment Board, but this would be an "independent" agency equally responsible to the Congress and the President, and would be concerned with technological impacts other than those on the environment. Senate Bill 1075 probably represents the proposal within this category of alternatives for which the widest consensus outside of the government presently exists. It overcomes objections to the subordination of environmental policy to a system of social accounts or to an exclusive emphasis on science and technology. And it avoids loss of identity for environmental policy, or prejudice to independence of viewpoint, that would probably attend the deliberations of an interagency council. Although it adds certain functions, chiefly those of surveillance, education, and research to the Department of Interior, it does not otherwise alter the structure of the federal government.

Some friendly critics of S. 1075 would like to see it reinforced by a more explicit statement of national policy and by such measures as might strengthen its leverage in relation to the other executive agencies. The experience of the National Resources Planning Board of the nineteen thirties is a warning of the vulnerability of a political powerless agency in a policy area of conflicting interests and values. Environmental issues are avoided by some elective officials *because* of the risk that they entail. It is traditional political prudence to avoid being caught in the cross-fire of powerful, antagonistic interests. Compared to a Council on the Environment, the Council of Economic Advisers operates in a tower of ivory, behind a wall of statistical abstractions that few citizens profess to understand. The protection and improvement of the environment is unavoidably involved in controversy. Until the realities and limitations of Spaceship Earth are more widely understood and respected than they are today, the members of a Council on the Environment ought to be exceptionally free from political ambition. Effective service on such a Council would probably preclude subsequent election to public office.

A second concern regarding S. 1075 is with its designation of the Department of the Interior as a major agency "to conduct investigations, studies, surveys, research and analyses relating to ecological systems and environmental quality." The concern is not primarily that research is not a governmental function, but rather that the nature and scope of environmental and ecological research is no more uniquely appropriate to the Department of the Interior, as it is presently organized, than it is to the OST. Ecological and environmental concerns are the business not only of Interior, but also especially of the Public Health Service, Environmental Science Services Administration, and of at least six other federal agencies. There is little if any quarrel with the ecological survey and research objectives of S. 1075 or of a similar measure sponsored by Senator Gaylord Nelson. The question is whether the responsibility should be placed in any of the federal departments as presently constituted, unless buffered from political and bureaucratic importunities by a structure analogous to that provided for the National Institutes of Health.

There are a number of alternative arrangements for realizing the important objective of ecological and environmental research. Among them should be listed proposals for a quasi-autonomous National Institute of Ecology advocated by the Ecological Society of America; for a National Social Science Foundation, proposed by Senator Fred Harris; and a system of university related institutes of environmental studies, recommended by the Pollution Panel of the President's Science Advisory Committee and the Caldwell-Sargent proposal to the Public

Health Service Symposium on Human Ecology, November, 1968. It seems probable that some combination of research agencies under the overall coordination of the high-level Council on the Environment would be the most practical answer to the need. The previously cited OST memorandum of 1968 proposed such a coordinative arrangement, but under its own supervision. Funds, in addition to those now appropriated for research activities in presently existing agencies, could be administered by a Council on the Environment. This might advantageously reinforce its political viability by developing a constituency of professional societies, universities and research institutes, associated with it through its administration of research grants and contracts.

The third category of proposals—for departmental reorganization—currently includes at least three alternatives. The proposal for a Department of Science and Technology has already been mentioned, but its mission would not primarily be environmental policy. The most frequently discussed alternative would reconstitute the Department of Interior as a Department of Natural Resources. This proposition has been criticized, however, as presenting a one-dimensional view of the environmental issue—the economic. “Natural resources” is a commonly used, unobjectionable economic concept, but it does not include, except by an act of extraordinary semantic creativity, the full range of needs for which man seeks fulfillment in the environment. There appears to be a growing tendency to consider the Department of the Interior as a Department of the Environment, particularly as its concern was broadened under the administration of Secretary Udall to include, in the words of President Johnson, “a new conservation—not just the classic conservation of protection and development, but a creative conservation of restoration and innovation. Its concern . . . not with nature alone, but with the total relation between man and the world around him.” [Message to the Congress, February 8, 1965.] “The Secretary of the Interior,” editorialized *Time Magazine* May 10, 1968, “really ought to be the Secretary of the Environment.”

The major difficulty with the transformation of the Department of the Interior into a Department of the Environment develops out of the effect of this action on other government agencies. If natural resources were the organizing principle around which the Department were reconstituted, the combination of agencies to be included would differ from those logically related to an environmental focus. All major areas of public policy tend to interrelate in ways that are inconvenient to the makers of conventional organization charts. For example, how should the federal government organize to deal with energy? The nation has no coherent energy policy, but eventually it is likely that one will emerge. Should energy policy be considered an environmental matter, or is it primarily an economic or technoscientific issue? If environment becomes the major focus of a single department, would all agencies having to do with the environment come under its jurisdiction? It should be obvious that they would not. For example, foreign affairs, education, health, and justice are the primary concern of specific agencies, but the exclusive concern of none. It is, however, possible that much of the difficulty in conceptualizing a better organization for the Executive Branch lies in our unwillingness or inability to rethink the role and functions of the federal government in American society. One attempt to break out of conventional assumptions regarding departmental organization is the idea of the super-department or ministry. But before examining this alternative, it is necessary to review briefly another alternative (although only a partial one) for departmental reorganization for environmental policy.

The National Oceanic and Atmospheric Agency, proposed by the National Commission on Marine Science, [*Our Nation and the Sea*, January 11, 1969], is not directed so much toward ecology and the broad range man-environment relationships as it is toward physical science and engineering. It is considered here because of its obvious relationship to federal organization for environmental policy. But it would not answer the need for institutional reform that has induced the environmental quality legislation proposed in the Ninetieth and Ninety-First Congresses. The principal difficulty with the Marine Commission proposal is that it has not been made within a context of comprehensive reorganization within the Executive Branch. The continuing *ad hoc* creation of independent agencies is of dubious wisdom if responsible and coordinated public policy is desired. The establishment of a new Marine and Atmospheric Science Agency may be desirable, but such a decision cannot be responsibly undertaken unless it is an outcome of a careful examination of the full range of governmental responsibilities for the environment.

This same conditional proviso is equally applicable to establishment of a new super department for the environment and natural resources. Because discussion of the super-department has as yet been chiefly on an informal basis, official proposals for institutional reform cannot be cited. Nevertheless, there are certain considerations upon which most proponents of this type of agency seem agreed. They are, *first*, that reorganization for environmental policy can most effectively be undertaken as a part of a review of the total structure of the Executive Branch; *second*, that no agency, however comprehensive, can or probably should have exclusive jurisdiction over any aspect of public policy; and *third*, that the rationale for the super-department is to bring a greater degree of clarity, coordination, and responsibility to federal administration. The large scale of the super-department makes it easier to accommodate functions of environmental, natural resources, and energy policy under one coordinative structure.

The super-department is what in parliamentary government would be called a ministry. Its functions would be those of planning, review, coordination, and conflict resolution. It would not be an operative department in the traditional sense, and would relate to subordinate agencies somewhat in the manner that the Department of Defense relates to the Departments of the Army, the Navy, and the Air Force. An objective of the super-department would be to de-concentrate, to some extent, the power of decision now theoretically lodged in the person of the President, but in fact often exercised by lower echelon officials in the Bureau of the Budget and other Executive offices of whom the Congress or the electorate have no knowledge and no means of questioning or calling to account. The head of a super-department would have higher visibility than most cabinet officers have experienced since the early years of the Republic.

Professor Stephen K. Bailey in his essay in the 1968 Brookings Institution report entitled *Agenda for the Nation*, identifies four areas of prime concern for the nation as viewed from the Executive office. These he describes as national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. These four areas could become the foci of new cabinet level super-departments as indeed the first of them—national security—already is. This form of administrative organization would not, however, obviate the need for separate advisory councils. Indeed, it would make their separate status more important as independent agencies for policy surveillance and review. Some students of public administration believe that there are advantages to responsive and responsible government in alternative sources for public decision or action on nearly all issues. They argue that a moderate degree of competition among agencies may actually increase the efficiency of government operations. It is therefore pertinent to this argument to point out that the super-department concept does not necessarily imply exclusiveness or monopoly in any sector of public policy, and is consistent with the idea of multiple avenues of recourse on any public policy issue.

SOME CONCLUDING OBSERVATIONS

At the outset of this statement, the point was made that a choice among alternative arrangements for environmental administration would logically depend upon an assessment of the importance of the issue and a judgment regarding its nature. The foregoing analysis of alternative proposals indicates that differing conclusions on these matters have been reached by differing groups and individuals. But the task of decision by the Congress and the President is not greatly assisted by a comparison of divergent views. Their need is for more basic criteria. The argument has been advanced that a national policy for the environment, adopted by the Congress as a statute or resolution, could provide this criteria. The absence of an adequate policy statement, accompanied by explicit provisions for its implementation, is the most serious omission from the current set of legislative proposals for institutional reform. Without such an operational charter, the political future of a high-level council on the environment, such as proposed by Senators Jackson, Nelson, and McGovern, among others, would be unduly handicapped. Its situation would be comparable to a Council of Economic Advisers *without* an Employment Act of 1946.

The scientific evidence of a mounting crisis of the environment is so pervasive and so thoroughly documented that rational disagreement can occur only with respect to the *degree* of its seriousness. But scientific truth does not automatically become political truth. Political disbelief cannot alter material reality; it cannot alter or amend scientific fact. But it can prevent government from coping effectively with reality. Dr. George H. Gallup Jr., President of the American Institute

of Public Opinion, believes that most Americans accept the proposition that there is indeed a real crisis of the environment and that government is not doing enough about it. In a recent survey (January, 1969) he found that younger adults in particular were concerned about environmental degradation. Analysis of the news media would tend to confirm Gallup's view. The country as a whole may be more ready for a vigorous attack upon environmental problems than are the rank and file of the Congress or the mission-bound Executive agencies. But if the recent multiplication of Congressional subcommittees with an explicit environmental concern written into their titles is more than an improbable coincidence, it is an indication that concern for the environment is being perceived in the Congress as good politics. But the scientific truth of an environmental crisis will not become a fully legitimized political truth until the Congress, or the people, by their votes make it so.

Mayor Carl Stokes of Cleveland recently expressed a feeling shared by millions of Americans everywhere when he compared the threat to American security posed by the pollution and decay of our urban environments to the military and ideological threat external to our boundaries. Mayor Stokes does not have to read the scientific journals to discover the nature of the threat to our environment. With millions of other Americans he daily experiences the threat, and finds it increasingly difficult to reconcile the enormous disproportion between the national commitment in money, men, and organization to defense against possible attack from overseas and the inadequate and defaulted commitments to defense against the forces of decay at home that could as surely destroy the national security. Four years ago in a prophetic essay [Harper's Magazine, February, 1965], Peter Drucker predicted that quality of environment and of human relations would become the major political issues of the future. He foresaw success for political leadership that understood the coming change of values. But he also saw that the greater part of our political leaders of middle age were locked into the perceptions and values of the nineteen thirties and forties. When this perception gap is also a generation gap, and becomes also a political gap, the makings of political overturn are present. The Nixon administration and the 91st Congress may have the last opportunity for American political leadership to deal with the problems of the environment and of human relations by means of methods short of radical.

Any clear-minded elected official knows, and Lyndon B. Johnson perhaps knows better than any, that the public does not reward its political leaders for good intentions. If our estimate of the scientific and political significance of the environmental issue is correct, it is already long past time for a major reassessment of national priorities in relation to the environment. This reassessment is unquestionably a responsibility of the Congress. There has been articulate leadership on behalf of environmental policy in both Houses of the Congress. Few of the individuals or legislative proposals have been specifically identified in this report, which has been concerned with issues rather than with events. But it is now time for events—for adoption by the Congress of an explicit course of policy and action to bring the worsening environmental situation under control.

Let us begin the task where best we can. If the least promising of the organizational alternatives is the best that can be presently detained, let us begin there as a temporary measure. But let us also persist in efforts to obtain the most effective organizational answer to the problems of environmental policy that experience and research can provide. Few of the alternatives now under consideration for implementing environmental policy are mutually incompatible. The effectiveness of measures taken will depend *first* upon an adequate, operational national policy and *second* upon an adequate definition of the place of environmental policy in the total structure of the Executive Branch. Beyond these considerations are problems of relating federal responsibilities to those of state and local government and to the non-governmental and international aspects of our society. On Sunday, March 30th, the *Chicago Tribune Magazine* printed Part I of a state-of-the-world report on the earth dweller's tendency to make his planet uninhabitable. "Is Man His Own Doomsday Machine?" asked the *Tribune*. The answer to that question may very well be given in the response of the elected representatives of the American people in Congress, who alone have the power to set the course of national policy and action for the protection and management of the environment.

The CHAIRMAN. Senator Tydings. Then we will call on former Secretary Udall.

Senator Tydings, we regret that there was a mixup on the timing this morning. We were right in the middle of a panel discussion, and I knew you were aware of our difficulty, and we appreciate your forbearance.

**STATEMENT OF HON. JOSEPH D. TYDINGS, A U.S. SENATOR FROM
THE STATE OF MARYLAND**

Senator TYDINGS. I think, Mr. Chairman, in view of the late hour and the fact that Secretary Udall has to speak, I would ask that you would incorporate my statement in the record in its entirety and just let me make a few comments.

The CHAIRMAN. The entire statement will appear in the record.

Senator TYDINGS. Mr. Chairman, gentlemen, I introduced a bill on the floor of the Senate which was referred, unfortunately to the Public Works Committee. I will ask unanimous consent to get it re-referred to your committee. It is entitled, "The Environmental Quality Act of 1969." Briefly, it establishes within the Executive Office of the President an Office of Environmental Quality to be headed by a Director appointed by the President.

The Office, as I visualized, would be small and select, with authority to review, clear, coordinate, appraise policies, and projects of the Federal Government which might adversely affect the quality or the integrity of the environment. It would operate in the area of conservation of environment, much as the Bureau of the Budget operates in the field of finance.

It would pull together the activity of Government relating to environmental quality and provide for the overview now lacking and so necessary, as you know, to any rational or creative approach.

I would urge this committee in your deliberations, in your consideration, to give some thought to creating some type of an overview agency that goes beyond just compiling facts and giving advice. Our population is exploding rapidly. Things happen quickly, too quickly for us to be able to afford that luxury. I think you are going to have to establish within our governmental structure some sort of agency with some political muscle.

There are two functions which I would grant to this new agency, whether you call it a Council of Advisers or an Office of Environmental Quality, or whatever you call it. They are, No. 1, the power of review, but, No. 2, more important, the power of delay. The overview agency should have the authority to review, to clear and to coordinate legislative proposals, particularly those emanating from the administration relating to environmental quality. It would thus act in the field of conservation, broadly defined, much as the Bureau of the Budget operates in the area of finance.

Additionally, I would hope that you would consider giving the agency some sort of strength to delay a specific Federal project which in its judgment threatens the quality of the environment of our Nation. Our scientific achievements are increasing so rapidly that much damage can be done in a short time. I think you are going to have to have some sort of an agency or a bureau or office with some political strength.

Now, that is really the thrust of my remarks other than to congratulate the chairman for the initiative in calling the colloquium last

July. I think that was a marvelous idea. It was a great national service. I think your hearings are effective if for no other reason than to alert the Nation to the problems. But I hope that you report out legislation, and I hope that you will consider at least giving the agency or council, or whatever you want to call it, the actual political muscle to do the job, because if you just have advice, I don't think it will serve the purpose that we need.

All you have to think of is that the population in this country will hit 300 million before the end of this century, to realize the resultant problems to the environment. Then you realize that something has to be done to at least give the President an idea of the effect of various administrative activities of governmental activities on the overall environment.

The CHAIRMAN. Thank you, Senator Tydings, for a very fine statement. I read your four points, and I think they were well taken. We appreciate having your support in connection with an effective environmental program. I think a declaration policy standing by itself without some action-forcing procedures will be meaningless. And I take it you share that view.

Senator TYDINGS. Yes, sir.

The CHAIRMAN. We appreciate your kindness in waiting.

Senator TYDINGS. Thank you for your courtesy, gentlemen.

The CHAIRMAN. Thank you very much.

(The prepared statement referred to follows:)

STATEMENT OF HON. JOSEPH D. TYDINGS, A U.S. SENATOR FROM THE STATE OF MARYLAND

Mr. Chairman: I welcome the opportunity to appear before you today and wish to commend you and the Committee for convening hearings on environmental quality.

Certainly few concerns of mankind are as important as this. Yet I do not believe I need to convince anyone here that as a nation and a people we have permitted an intolerable abuse of our environment. Its quality is certainly in doubt. Our waters are polluted, running rich with sewage and industrial wastes. Our major cities have forgotten what clean air is. Roads have been built and housing "renewed" with little sensitivity and a remarkable forgetfulness that we are dealing with human beings. Harmful pesticides are sprayed with an abandon that is truly alarming. The concept of America the Beautiful is now at least open to question as our streets, sidewalks and countryside seem littered with trash and garbage.

To restore and enhance the quality of our environment, I believe there are some four urgent steps which the nation must take.

The first of these is to close the gap between authorizations and appropriations in the spending for natural resource programs. A quality environment costs money. There is no getting around this. You cannot get something for nothing and a quality environment is no exception. The gap is illustrated by the difference between the FY '69 authorization for construction of water quality treatment plants. The authorization was \$700 million; the actual sum appropriated only \$214 million.

The second step to be taken is the acceleration of our basic research in the field of ecology. Simply stated, we need to know more about the effect of pesticides, more about thermal pollution, and more about the impact of sulfur dioxide. But I would like to add a word of caution here. The recognition of the need for additional research is not an excuse for inaction. We know enough now to act, and to act firmly. We need further research, but we need action as well.

The third step required is one of the most important. Our government is not organized to handle the complex problems we face in attaining a quality environment. As Laurance Rockefeller has pointed out our government seems designed for an earlier day. The allocation of responsibility reflects a rural nation concerned primarily with the disposal of public lands and the exploitation of natural

resources. We are just not programmed for a systems approach to an urban society.

What is needed now is an agency whose purpose is to look at the total environment and the manner in which the Federal government affects it. The present piecemeal approach is no longer sufficient. There is little coordination and no overview. Yet we need both.

The bills the Committee is considering today, as well as the legislation I introduced yesterday, seek to achieve this overview. The means chosen vary somewhat, but the objective is the same.

Without this overview our nation will not achieve a quality environment and all of us shall be the lesser for it.

The fourth and final step required to restore and enhance our environment is the declaration of a national policy on the environment. To this end, Mr. Chairman, your efforts last summer in calling together the Joint House and Senate Colloquium between this Committee and the House Science and Astronautics Committee to discuss a National Policy for the Environment are to be commended. The colloquium was an exciting idea and will be, I think, a significant contribution to achieving a quality environment.

The key question to raise, however, is what will this national policy be? It is easy to speak of such a policy; it is much harder to decide upon one.

Nevertheless, I would like to offer the thought that our nation's policy on the environment should be, simply, the creation of a quality environment for all the people.

But what does this mean? What is "quality?" Isn't the phrase deceptively simple and rather vague? These are fair questions and must be raised. I would answer that "environmental quality" is no more nor less definable than "domestic tranquility," "general welfare," "economic prosperity," "social well-being," "national security," and other set policies of this country, either stated or unstated.

One could, of course, take the negative approach and define what "environmental quality" is not. It is not filthy rivers. It is not polluted air. It is not a careless use of pesticides. And it is not "piecemeal government."

I think we would all agree that a more positive approach to the problem is required.

I think it is possible to define the key elements of a national policy on the environment. The term "quality environment" incorporates at least in part, the following:

- *each individual's right to a quality environment.
- *the individual responsibility to contribute to a quality environment.
- *the responsibility of local, state and Federal governments to maintain creatively and carefully such an environment.
- *the government as trustee of the environment for all the people.
- *the consideration of long-term benefits over short-term advantages.
- *the need to enhance our environment, not just maintain or protect it.
- *the environment as safe, attractive, diverse, productive, and prosperous.
- *the need to balance the relationships between technology, population, and natural resources.
- *the recognition that the environment must be considered on an international basis.

An additional element must also be included. There must be within the government an agency or group capable of taking the overview. There must be an office which will ensure that environmental considerations are brought into the decision-making processes of government. The councils created by the legislation before this Committee, as well as the Office of Environmental Quality established by my own bill, are efforts to achieve this.

Finally, we must remember that a policy by its very nature is flexible. To achieve success and longevity it must be both broad and unburdened by rigid and dogmatic guidelines. It must ensure that the right questions be asked. It must be capable of accommodating change. It must offer direction yet speak of aspiration as well.

Mr. Chairman, before concluding I would like to urge the Committee in its deliberation to consider creating an overview agency that goes beyond mere advice. I think it is necessary to establish an agency with some political muscle. And I think the time to do this is now.

There are two functions which I would grant to the new agency, whether it be called a Council of Advisors or an Office of Environmental Quality. They are the power of review and the power of delay.

The overview agency should have the authority to review, clear, and coordinate legislative proposals relating to environmental quality. It would thus act in the field of conservation, broadly defined, much as the Bureau of the Budget operates in the area of finance. Additionally the agency should be able to delay a specific Federal project which threatens the environment. Too much harm has already been done by ill considered, precipitous action, and we need a method to prevent this from recurring. This is one "safeguard system" which we need.

Mr. Chairman, I appreciate the opportunity to testify today and I want to assure you of my full support for your efforts to restore and enhance the quality of our environment.

The Chair is delighted to welcome to the committee the distinguished former Secretary of Interior. This is the first time that Secretary Udall has appeared before the committee since leaving office. I want to say that we all owe you a great debt for what you have done in the area of conservation, as I have noted on many previous occasions. I certainly want to extend to you a warm welcome this afternoon and we look forward to your comments.

STATEMENT OF HON. STEWART UDALL, FORMER SECRETARY OF THE INTERIOR

Mr. UDALL. Thank you very much, Mr. Chairman. It is a pleasure to be with the committee today. I do not have a prepared statement. I apologize to the committee for it. I find I don't have the staff that I once had, and sometimes I don't have the time to prepare the kind of statement I would like. But I do have some comments that I would like to make that I think will be pertinent.

I liked Senator Tydings' reference a moment ago to the need for an overview, and I want to advise the committee, as some of you may know, I am one of the ex-Cabinet officers, and having a very happy time because I am still involved in conservation and in environmental matters. I am heading up a new environmental consulting and planning firm which we have called the Overview Group, and I do believe—

The CHAIRMAN. You would just as soon enact that into law.

Mr. UDALL. That is right. I like that as a term. I want to commend the Chairman of this committee and the members of this committee for the leadership and the interest that they have shown in this whole field of protecting the American environment.

I was interested the other day—I think it is the current issue of Fortune magazine. Edwin Foglemeyer, who has been one of the best writers in recent years on environment issues, said that the only area of our national life as far as the cities are concerned, or as far as the total environment is concerned where the country had done well, done adequately, is with regard to national parks, wilderness protection, and things of that kind. If that judgment is true, much of the credit for that goes to the members of this committee and the chairman of this committee for what you have done in the past.

I believe we reach the point where legislation of the kind you are considering today is most timely, and one of the reasons that the time is right and that this legislation has the kind of support that has been evidenced here today is that one of the phenomena of the Nation today that did not exist a decade ago is a very broad and a very deep concern at all levels of our population over the quality of the American environment.

Without doubt, one of the negative features of our national life is the erosion of the livability of our cities, of the attractiveness and the appeal of the American out of doors.

I noticed just a few days ago the National Wildlife Federation commissioned a poll by Dr. Gallup with regard to the question of the environment, and it turned out there was only a small portion of the American people, I think, something like 10 or 12 percent, that were not concerned or said they had no concern about the environmental problems and the difficulties in which our country is in.

I would like to observe also, Mr. Chairman, that I honestly believe—I said so last year while I was Secretary, I can be maybe a little more candid now—that on balance, when one looks at the total environment of this country moving from the heart of our cities up to the furthest wilderness areas, I think we are still losing the battle. I think week by week we are seeing more bad things happen that diminish the appeal, the beauty, and the livability of our cities and our country than we are seeing positive things which are arresting deterioration and pollution and erosion.

I believe our cities are substantially less livable, most of them, than they were a decade ago. Our air and water is more polluted and not less. And I think beauty is still being sacrificed much too often.

So I want to commend the committee. I think the focus on this legislation is right. I am very pleased that we talk today, not as we did a decade ago about resources alone, as important as resources are, nor do we talk about conservation related to Nature alone, as important as that is, but we are trying to pull together so that man thinks of what man does, of the manmade part of the world and of the world that Nature constitutes as part of a single system, and we see these interrelationships. And I think the purpose of this legislation, as far as I am concerned, is very much right in its focus and its emphasis.

One of the things that we realized a little bit late in this country during the postwar period—indeed, it goes back beyond World War II—was that one of the leading phenomena both in this country and worldwide was an immigration to the cities. Today, which is the reverse of 70 or 75 years ago, 70 percent of the people live in the cities. This is where most of the problem centers, and this is the reason that when we talk about the environment we have to think of the cities as well as the countryside.

I would also like to say that I can't discuss this issue without linking it in a very direct way with what I believe is a need for new national priorities with regard to the future. Certainly if we look at this period of the 1960's (the areas that in the main have been, I would say, well treated and well financed have been our defense and military activities and space. We have kept the space program on the target. I have always thought we were rich with regard to the money we are investing in highways as compared with many other activities that we are trying to do, both with regard to transportation and environment.

To give you a few ideas that indicate how I think the environment and its quality have been starved, when I think back to the total amount of money in the 8 years that I was Secretary that we spent both for open space in cities and all of the money that we spent out of the conservation fund over the last 5 years to save parklands, forests, and city parks—I haven't added it up, I asked somebody to do this for me

and they didn't get the job done—but I would judge that the total amount of money that we spent in this area in particular for land acquisition and development certainly is substantially less than half a billion dollars. In other words, it amounted to a small fraction of the space budget (to use one example), for a single year, or of the highway budget for a single year.

Those of us who are worrying about the environment every day believe, at least I do, that next to the control of nuclear weapons, population pressure and unlimited population growth is probably the No. 2 problem that mankind faces. I think it is a very crucial problem we face in this country, and yet the total amount of money that we are spending this year, both here and abroad, in population control, is something in the neighborhood of \$30 to \$40 million; in other words, a mere pittance when you realize we are talking about the problems of the cities.

Think of this a moment in terms of what it says for national priorities. We spend as much for chewing gum as for the model cities program. The ladies spend as much for hair dye as we are spending for urban mass transportation systems. We are spending more for pet food than on food stamps for the poor. And I could go on.

The point I am trying to make is that I think that if we are really concerned about doing the things that must be done across the board to make the cities more livable, to tackle pollution head on, to do the conservation work that we must do, we are going to have to have a significant upgrading of these activities in terms of our national priorities.

And it is my belief, therefore, that this legislation is particularly timely and that the idea of ecological studies that are proposed by the Department of the Interior, and particularly the legislation that would set up a National Council on Environmental Quality, I think if I had my way I would call it a Council of Environmental Advisers, perhaps, but whatever we call it, it seems to me that this is certainly a very important time to discuss this, because I believe the Nation has ahead of it, in the immediate years ahead, the best opportunity that it has had in the entire postwar period to look at its national priorities and its national needs and perhaps to reshape them.

One need only look at how painful the current situation is with regard to funding some of our vital environmental programs. And I can speak to both sides so no one will accuse me of a political comment here, but both President Johnson's last budget and President Nixon's new budget which he submitted yesterday, in both instances instead of increasing the amount in the conservation fund that this committee provided last year by earmarking moneys from the Continental Shelf to double the amount of money we would put into the conservation program that has been saving so many places in all of the 50 States, this amount of money is either cut back or kept in status quo. And this, again, is an indication of the trouble we have with national priorities.

The reason I believe that this is a very appropriate time to act in this field and to have a council to advise the President to play tennis with the Congress, to educate the country, is because I believe we are now going through with this, and we have an unmatched opportunity to reassess our national purpose and our national priorities.

Let me just kickoff the facts that I believe lead to this opportunity. There undoubtedly is going to be some kind of phasing down of the Vietnam war. We are going to be successful this year, I am sure, in our space effort. The question then before the Congress and the country is what our second phase is in those areas and whether we are going to spend more or less money in space and more or less on the earth, shall I say.

There has been a very definite slowdown in population growth in this country, and for one I think we ought to welcome this. I think if this trend continues we are not going to have a doubling of population in this country, and we may even slow down to the point that we can get on top of some of these problems that now have us by the throat.

A Department of Agriculture report recently was very encouraging, indicated that the emigration off the farms has stabilized and that there is indication we may have come to the end of this period of migration off the farms and into the cities. And in addition to that, when one adds the circumstance that we are now approaching 1976, in our third century of the nation, we have, I think, an unmatched opportunity to remake our national priorities.

So I want to say to the chairman and the members of the committee, I am enthusiastically in favor of both sections of this legislation, certainly, the importance of sound resource planning in ecology and ecological studies, I think we all recognize that now. I have felt that for the last year or two, both while I was in the last administration and outside, that the idea of a council on the environment to advise the President, to work with the Congress, to work with the country, would be a very vital contribution at this point.

Let me just look for a moment at the history of the other similar council, the Council of Economic Advisers, which was established right after the war. Some of the Senators sitting here helped formulate that legislation. The idea, of course—we were looking back over our shoulders at the depression—is that we wanted to set out as part of our national purpose that we were not going to tolerate serious depressions. We wanted to have a full-employment economy. We wanted to have as a national goal that our economic system would function efficiently.

And so we set up a council, and it has operated now for nearly 25 years. Of course, any council, we should recognize, is only as useful as a President wants to make it, if it is an advisory council, and Presidents must be concerned and they must care or the advice of a council isn't of much use. But I believe the history of the Council of Economic Advisers proves its worth. I think all of our Presidents have leaned on it for advice.

It has served to do much of the advance planning. It has monitored the week-by-week progress to see how the economy was functioning. And it seems to me the experience of this Council would indicate that if a Council on the Environment were to have similar encouragement and success, that it could function with equal effectiveness in terms of furthering national needs and national priorities.

How would such a Council function, I have asked myself. It seems to me that, in the first place, since it would not be tied in with a department that is concerned with all of its territorial imperatives and its programs, that it could look down the road, exercise foresight, be

constantly concentrating on these larger problems of national needs and national priorities, and try to resolve conflicts perhaps before they arise, to anticipate controversy. It would be a full-time agency looking toward solutions and trying to think about policy problems and shape them for decision by the President. It would also educate the country. It could be, in addition to that, a first line of defense for those who are fighting against the further erosion of the environment.

I merely want to say, Mr. Chairman, one or two other thoughts that I have about such a Council. I would think or would hope that its composition, if it were established, would be very broad in recognition of the total environment concept. I think it would be as much or more urban-oriented than back-country-conservation-oriented, one might say.

The Council of Economic Advisers is made up, naturally, of economists. As to the advisers of such a Council as this one on the environment, I would hope you would have people who are distinguished in the field of nature and the natural sciences, such as ecologists, biologists, people like that. Certainly, we would need urban experts, perhaps a person like Ed Lowe, a Lawrence Helprin, someone of that kind, involved with urban design and the urban environment, and perhaps even an engineer. We are beginning to develop engineers that are very sensitive to environmental values, or we could have an economist such as Dr. Kenneth Baulding of the University of Colorado.

In any event, such a Council could focus on the question of population policy, population increase, recycling of wastes, what I have called civilizing our technology. They can also, for the President, scrutinize existing programs and point out where programs are not functioning well or where they are becoming obsolete or where new policies are needed. In other words, this Council could have a very creative function. And I want to reiterate, I for one think it would work and I think it would be highly successful.

I only want to add, Mr. Chairman, one final thought, and I don't have quite the trepidation I had a few months ago in telling Congress what it should do. It seems to me that one of the incidents or one of the ways in which the Council of Economic Advisers in its annual report has served the country very well in that there is a joint House-Senate committee, the Joint Committee on the Economic Report that every year receives a report of the committee, discusses the economy, discusses economic policy, and usually for a month or 6 weeks holds public hearings, and you have in that a broad-scale discussion each year of economic policy. And so I would like to see and suggest—we might even look back on it and feel that the colloquium held last July was maybe the first of these meetings, that this is another area. I don't like to recommend that Congress proliferate permanent committees. This would have to be, of necessity, however, a permanent or semipermanent committee that would be the counterpart in the Congress of this kind of council.

And I believe that once a year, if we stop for a month or 6 weeks and the Nation assesses its progress, assesses the new developments and trends, the policies, the decisions that are before the country with regard to the quality of the work involved, that this would be a very helpful thing. Myself, I would like to see the Congress play a strong role, and I think a way to do that would be to have a joint committee.

The other thing I might point out, because it was very clear to us

that the colloquium last July showed that this question of environmental quality touches a half dozen committees in the Senate and House. There are many Members of Congress—you are not alone on this committee—who have keen and deep and live interest in this.

I believe that a joint committee, therefore, could serve as a national forum and could help make this work even more successful than it would work otherwise.

These, Mr. Chairman, are some of my thoughts, and I want to end as I began, by saying that I am very pleased to be back here with the committee again, and to commend this excellent legislation.

The CHAIRMAN. Thank you, Secretary Udall, for a very fine series of comments on the matter now pending before the Committee. I especially welcome your remarks about the governmental structure problem. I think this is a key to whatever we do. Our task is to re-define at least a portion of the Government structure, to bring about an action-forcing procedure that will bring environmental considerations into the new programs that are constantly coming before the Congress. And in addition, to commence to do something about the problems that are already in being.

If we can slow down the effluent process that is now underway and has been for some time, but increasing at a progressive rate, we will have brought about a major accomplishment.

I think your comments as a former Congressman, a distinguished Secretary from the standpoint of the governmental procedures have been very helpful to me, and I want to compliment you very much.

Senator Anderson.

Senator ANDERSON. I don't have any questions. I just want to express my thanks to the Secretary that he has been able to be back here for a short time with us.

The CHAIRMAN. Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

It is good to have you back. Mr. Secretary, and I want to join the Chairman in appreciation of your contribution of the environmental problem. You gave us a new thought here in adapting some of the ways we handle Joint Economic reports through a Joint Economic Committee, and I think this has merit. It is in line with my own thinking. The reason I like it, I guess is because I do serve on the Joint Economic Committee, and I find that the busiest 6 weeks or 2 months that I put in in the whole session is then, but I think much good comes of that. And this is a very important airing of the divergent views; we don't always agree, we usually come out with a majority report and a minority report, but it gets ventilated. The economic reviews, the economic ideas of the President's Council of Advisers get very well aired through the national media of the press and radio and television, and I think the same kind of advantages could come from like treatment of this problem that we have.

I commend you for it.

Senator ANDERSON (presiding). Thank you, Mr. Secretary. Thank you very much.

Senator Moss.

Senator Moss. Thank you, Mr. Chairman. I, too, welcome the former Secretary back to this committee. It seems like old times to have him here, and as always you have come up with a very constructive and

positive recommendation. Your recommendation of a National Committee on Environment certainly strikes a responsive chord.

I have felt for a long time, as you know, that one of our problems in not dealing with the environment is that we have permitted our resources areas to be fragmented among the Government departments. As a problem arises that we think we should tackle, the Congress has tended to put it in one place, and another place, and so for a number of years I have been introducing a bill to bring together all these environmental problems into one department so we could focus on one responsible head to give us guidance. And I wonder if you have any comment on that, as to whether that would contribute to the solution of this problem, or whether it is unnecessary.

MR. UDALL. Well, Senator, I think again I can speak with a little less constraint than heretofore, and I would see as part of a process of operating with greater efficiency, of streamlining our governmental institutions and agencies, so that it is easier to get decisions made and to have resource policies, for example, that are coherent, to have a department that would have in it the main functions of resource management and conservation.

How this is done and the method by which it is done is another question, but I am sympathetic, and I am sure you realize that, with the basic idea of your legislation. I would see this, also, as the logical step that could be taken simultaneously with the other steps proposed in Senator Jackson's bill.

Senator Moss. Well, speaking of environment, we are speaking of the relationship of all of our natural resources, and the purpose of the Council, if it is established, is to be able to overview them all. If we had them gathered for action under one department, it probably would facilitate the preservation and utilization of our environment consistent with the long-term well-being of our country and our population, in my opinion. I gather that you agree that this, at least, appears to be a desirable step.

MR. UDALL. Well, Senator, let me simply add that I think nothing did more for the Department of the Interior historically while I was there than the fact that we did strengthen its function and broaden its responsibilities. I refer particularly to the setting up of a Bureau of Outdoor Recreation that deals with the entire country, with all of the States and all of the cities, and the fact that Congress went along 3 years ago with President Johnson's recommendation to transfer water pollution control from Health, Education, and Welfare to Interior. I think this is the right kind of focus for action, and I think these were two very good things.

We can see now, just in retrospect, that they helped the Department work more meaningfully and more nationally in terms of its function.

Senator Moss. Thank you very much, Mr. Udall.

Thank you, Mr. Chairman.

Senator ANDERSON. Thank you, Mr. Secretary.

MR. UDALL. Thank you.

Senator ANDERSON. Mr. McCloskey.

STATEMENT OF MICHAEL McCLOSKEY, SIERRA CLUB

MR. McCLOSKEY. Mr. Chairman, my name is Michael McCloskey. I serve as Conservation Director of the Sierra Club, and I am speak-

ing for it here today. We shall address our remarks primarily to S. 1075 and proposals for a council on environmental quality. We are pleased to offer our strong support for S. 1075, which would establish such a council and provide for ecological surveys. We want to commend the sponsors of legislation of this type for these far-sighted proposals.

The Sierra Club, which is a national conservation organization of 75,000 members, traditionally has been preoccupied with saving especially unique and scenic wildlands. We still are working at this task. However, this work is being outflanked by the general deterioration in man's habitat and the outright destruction of the habitat for so much other life on this planet. Recently we expressed our alarm over these facts in a full-page advertisement that we ran in a national newspaper. We thought the time had come to communicate our anguish to a broad audience, and did so in these words:

I. The Moon, Mars, Saturn . . . nice places to visit, but you wouldn't want to live there.

Any moment now, Man will find himself hurtling around in an Outer Space so enormous that descriptions of its size only boggle the mind. (One attempt has put it this way: The size of the Earth is to the size of the known Universe as a germ is to our entire solar system.)

Yet, we already hear excited talk of locating, out there, a planet that duplicates the natural environment on Earth, i.e., trees, flowers, water, air, people; you get our meaning.

The fact is that if we do find such a duplicate Earth out there, it may be some thousands of years from today. Until then, the only place in the Universe that will feel like home is Earth, unless *your* idea of home life could include setting up house on space platforms, or the Moon, or taking your evening walk with oxygen helmet and space suit.

We haven't got used to thinking about it this way yet, but, as Astronaut Borman pointed out—for us people, Earth is a kind of inhabitable oasis in an unimaginably vast desert.

Also, Earth is a strange sort of oasis, in that quite apart from providing us what we need to live—water, air, sustenance, companionship—this oasis actually *grew* us and every other life form. We are all related.

Darwin, during his famous Galapagos journey, found all life on Earth—from plankton to people—to be part of an incredibly complex interwoven and interdependent blanket spread around the globe. There is no loosening one thread in the blanket without changing the stresses on every other thread, or worse, unraveling it.

So then, if it is life on Earth that most of us are stuck with for the next little while, we had better consider the consequences of what has recently been going on there.

II. Toward a more Moon-like Earth.

There was not always enough oxygen to support the existence of Man. It wasn't until green plants and certain ocean plankton had evolved that the natural process was begun by which oxygen is maintained in the atmosphere: photosynthesis.

Man, one would think, has a stake in assuring that this process continues. Consider then, these bits of news:

—In the U.S. alone, oxygen-producing greenery is being paved over at a rate of one million acres per year and the rate is increasing. Also, paving is contagious. Other countries are following suit.

—The oceans have become the dumping ground for as many as a half million substances, few of which are tested to see if the plankton we need can survive them.

—New factories, autos, homes, and jet airplanes have incredibly increased the rate at which combustion takes place—i.e., at which oxygen is used and replaced in our atmosphere by carbon dioxide and carbon monoxide.

The result is a kind of Russian roulette with the oxygen supply. Dr. Lamont C. Cole, ecologist, Cornell University, New York, has said this:

"When and if we reach the point where the rate of combustion exceeds the rate of photosynthesis, the oxygen content of the atmosphere will decrease.

Indeed there is evidence that it may already have begun to decline around our largest cities."

There is a bright side: If we should continue what we're doing, overpopulation will cease to be a problem.

STERILE

In only 25 years, traces of DDT have found their way into the average American to the extent of eleven parts per million. They are also found in animals, birds, fish and recently, in notable quantity, in the fatty tissues of Antarctic penguins. (If you wonder about the consequences, similar pesticides have already made sterile a species of hawk and owl in England. Here is the way it works: insects eat sprayed plants, small birds eat them, and then big birds eat *them*. By that time, the insecticide has been concentrated many-fold and the big birds are in big trouble. Now, if we humans were in the habit of eating owls and hawks . . .)

Aside from the toxic effects on Man and other animals, pesticides like DDT and newer more voguish chemicals eliminate whole populations of certain bacteria and pest organisms.

However, and here is the shocker, *no one in the world knows, when we aim at a particular pest, which other organisms may be eliminated by ricochet*. Someone had better find out.

If some pesticide, herbicide, or defoliant should by inadvertence kill too many of the "nitrogen-fixing" organisms—these organisms that enable living things to *make use of* the nitrogen in the atmosphere—*then life on Earth could end*.

It is that dependent and fragile.

RAMPANT TECHNOLOGY

The Aswan High Dam was dreamed up to prevent the Nile from overflowing its banks as it had yearly throughout history. (It was thought such a great idea that countries vied for the honor of helping build it; the U.S. foremost among them.) The goals were electricity and year-round irrigation, thus greater productivity. No one, including the U.S., thought much about certain *side* effects, which may ultimately prove the most important:

—Since the natural floods have been halted, life-giving nutrients that were formerly delivered to the land and the Mediterranean Sea are now piling up in a reservoir above the dam, unusable.

As a result the Eastern Mediterranean sardine fishery is already doomed.

As for the land, the lack of nutrients, plus the water-logging caused by old irrigation, plus salinization, *may actually decrease productivity*. Newly irrigated lands have the same fate in store.

—A particular snail has begun to thrive in the warm irrigation canals. The snail hosts a worm which causes schistosomiasis, a debilitating, often fatal disease. In one region around the dam, the incidence of this disease used to be 2%. It has now risen to 75%.

—At Aswan, we may also see repeated the awful developments at Kariba Dam, East Africa. At Kariba, rafts of hyacinths and reeds have spread over much of the reservoir's surface. It has been estimated that if this growth should cover just 10% of the reservoir at Aswan, the plants could actually transpire into the desert air enough water to stop *all* flow into the lower Nile.

Looking at the bright side again: In a few centuries, the dam will fill up with silt, and end its useful life. Then, the river will flow right over it, creating a huge, perhaps lovely, waterfall. Tourists will enjoy the view.

MORE IMPROVEMENTS

Engineers are improving things everywhere:

—In Alaska, a \$2 billion dam is proposed—to bring power to non-existent industry—which would flood a wilderness and nesting region the size of Lake Erie.

—In Brazil, engineers propose an Amazon dam that would flood a green area as big as Italy.

—In Southeast Asia, a series of proposed Mekong River dams may do for Laos, Thailand, and Vietnam what Aswan is doing for Egypt. *Every* country should be spared such improvements.

III. *A wildlife preserve where we are the wildlife.*

The speed with which our world is being altered is so rapid that there is not cataloguing it; it is everywhere . . . forests are gone, hillsides eroded and bull-

dozed, waters filled, and air and water polluted. The implicit assumption is that Man is the Master of Nature, and that losing a wild place or species or plant is of no great importance to us, and never mind the esthetics. But as we have shown, tinkering with the natural order of things can be a dangerous business, *for there is a need to think of the organic wholeness of nature, not man apart from that.* Man's vanity notwithstanding, he is irretrievably intertwined with everything on his planet and therefore must proceed with a degree of caution, until, at last, he has the option of actually leaving Earth.

If, before then, we should so alter our environment that we rid it of ingredients we need for life, then *we* will merely pass the way of other life forms that have become extinct for one reason or another. And, as humbling a thought as it may be. Nature might scarcely miss the people. Things might eventually get back into their own pattern, the natural order reviving. Plankton might evolve; oxygen might re-form in the atmosphere; grass might grow through the pavement and among tumbled columns as it has before.

With all this in mind, you may see that we, the 70,000 member Sierra Club, the groups we work with, and the critical publishing project you see outlined at right, are not so much proselytizing on behalf of Nature. In due course, Nature will take care of itself.

Our motives are more selfish, in fact. They are on behalf of our very own lives and the lives of our children who, we feel, have not only the right to live but also the right to live in a world that maintains the natural order enough to continue to feel like home."

As the ad makes clear, man is manipulating his habitat with unprecedented speed and force, and in the process is creating a multitude of unintended results which degrade the shared environment on which all living things depend. Advancing technology, the mobilization of growing capital resources, and the increasing size and skill of units organized to manipulate the environment are all creating an environmental crisis. The crisis comes in many forms:

(1) Continuation of old patterns which are no longer producing desirable results but nightmarish predictions; such as the unchecked growth of worldwide population; (2) emergence of new functional problems we are not organized to handle, such as solid waste disposal, and other basic problems of concentrated urbanization: transportation, blight, and decay; (3) insensitive pursuit of missions with heedless disregard for side effects which we can anticipate but do not avoid. Traditional programs thus product a continuing loss of prime farm land to urbanization, destruction of wildlife habitat and the extinction of species, disappearance of scientifically valuable natural areas, filling and dredging of productive estuaries, drainage of wetlands, obliteration of the land through stripmining, deforestation and soil erosion, water and air pollution, ground water depletion, saturation of irrigated land with salt, flooding of valuable river bottoms, surrender of more and more landscape to freeways, and defacement of the landscape by billboards, power lines, junkyards, open pits, and the clutter produced by excessive laissez-faire.

New programs are emerging, too, with detrimental side effects that can be anticipated: thermal pollution from large nuclear and steam power plants, radioactive releases from tests, nuclear plants, and disposal of nuclear wastes, and noise and stress problems stemming from the supersonic transport. (4) Finally, a variety of activities produce harmful side effects that were not anticipated: stress caused by crowding, smog produced by automobile emissions, spills and leakage from off-shore oil wells, detergents which degrade too slowly or not at all, long-lived and pervasive pesticides which concentrate in certain species, disruptive introduction of exotic species, and accelerating spread of carcinogens, accumulation of lead in the atmosphere, the prospect

of an oxygen deficit with consumption growing and production impaired, the unpredictable impact of weather modification, and the contrary possibilities of rising world temperatures as a result of carbon dioxide build-up or falling temperatures as a result of smog and jet contrails.

The emergence of these problems clearly shows that our existing institutions and programs are not adequate. Admittedly, our market economy has been remarkably successful in producing goods and services to meet man's most immediate needs.

Where necessary, government has intervened to provide basis buttressing for many of these market activities, as through irrigation and highway programs. To a limited extent, government has intervened also to mitigate adverse effects where they could be anticipated, as with soil erosion and forestry programs, and more recently with air and water pollution abatement programs.

However, where man's less immediate needs are adversely affected, and the effects are widely disseminated and hard to anticipate, little is being done.

It is now necessary, therefore, to supplement the contributions of the market economy and the programs of many narrow mission-oriented agencies with a third effort which will concern itself with the quality of widely shared extra-market values distributed throughout the entire biophysical environment.

As a first step toward organizing such an effort, it is necessary that the state of existing knowledge be improved. There should be an institutional focus for drawing together environmental information about the consequences of projecting traditional patterns, the emergence of new crises, the cost of perpetuating traditional programs with unwanted side effects, and ways of detecting unforeseen side effects that stem from technical innovations.

A Council of Environmental Quality would provide such a focal point. The Council should be equipped to monitor and survey the environment so that it can discover significant relationships and trends. Through such discoveries and improved understanding and foresight, the Council should be in a position to recommend remedial and preventive action.

In performing its function of surveillance, there are certain problem patterns that it should especially look for: incompatibilities between programs; abrupt changes in trends or the pace of change; irreversible tendencies in trends; large accumulations of small incremental changes; stockpiling of trace elements; persistence of fugitive substances; random interaction of substances and forces in a reinforcing, or synergistic, fashion; and the loss of unique and irreplaceable places and things.

In analyzing the data thus derived, the Council should attempt to relate the information it obtains in a comprehensive framework, developing models of systems wherever possible. In this manner, it should discover gaps in our knowledge and data which should be filled. The Council should encourage performance of preconstruction and post construction audits to determine the environmental impact of large construction programs. In analyzing impacts, the Council should determine how much margin of error we have in environmental impacts, and try to judge whether the risks are warranted by the benefits.

Through early detection, the Council should give us the maximum leadtime to ward off undesirable side effects. And finally, the Council's analyses should tell us whether the answer lies in improving the efficiency of existing programs or in curtailing and redirecting them. In some cases, lack of coordination may be the problem; in other cases ignorance or simple lack of concern may be the problem.

It is important to recognize that needs of environmental quality cannot be met simply through expanding traditional resource planning programs or by improving economic or administrative efficiency. We are not involved here in meeting target goals for the production of commodities; we are not involved in inventorying natural resources and predicting consumption requirements; we are not involved in working the "bugs" out of new programs; we are not involved in reducing proliferation and duplication among agencies; we are not involved in saving the taxpayers' money. These aims may incidentally be met as a result of the oversight function of a Council of Environmental Quality. But that function must be defined by the inherent needs of a healthy environment. Coordination and simplification may or may not be the answer. In some cases, we probably need to change our goals and to curtail present programs. Before we can know, we must first get the facts.

This is what a Council of Environmental Quality, in our estimation, should do, and it should do this in the most comprehensive and unbiased way possible. For the Council to have the most comprehensive view possible, it is important that it be lodged in a place that affords the most commanding view and that it have access to data compiled by all other agencies. This consideration suggests that the Executive Office of the President is the proper place for the Council.

This suggestion is reinforced by the need to keep the Council as unbiased as possible. If the Council is housed in any operating agency or institution, it cannot escape being influenced by its outlook and defending its programs.

The need to keep the Council free of justifying programs and decisions also suggests that it should not be vested with any authority to make decisions. Obviously its warnings and recommendations should receive careful consideration, and hopefully many of them will be adopted. But the proper instrument for responding to its recommendations may vary immensely with the nature of the problem.

In some cases, the President may have authority to act, and he may sometimes choose to do this through inter-departmental coordinating committees. In other cases, the decision will have to be made by Congress, and in still other cases the decision may be up to State and local government or private parties. We firmly believe that better mechanisms for responding to environmental crises must be evolved, but it will probably help insure a sounder basis for action if the functions of oversight and analysis are kept separate from the functions of authority and political responsibility.

The need for independence might suggest that the Council should not even be housed in the Executive Office of the President, but should be an independent commission. While this possibility has some appeal, it is offset by the difficulty such a commission might have in gaining cooperation from agencies in the executive branch and by the fact that such a commission would have difficulty in attracting the atten-

tion of the President. While the President may not always have sufficient authority to implement the recommendations of the Council, his support will always be important and it probably will be appropriate for him to act in more instances than any other body.

The need to strike a balance between independence and influence with the President raises the question of whether the members of the Council should serve at the pleasure of the President or should serve for staggered terms. By serving at the pleasure of the President, the members presumably will command his confidence, but they may also be unduly circumspect in criticizing programs of the Administration.

Moreover, the Council would lack continuity through changes in administration. If the members of the Council, on the other hand, serve for short terms on a staggered schedule there would be continuity through changes in the Presidency and its members might be more emboldened to take issue with administration programs they feel unsound. In any event, a President would be able to achieve a majority of his own appointees sometime past the midpoint of his first term. On balance, we feel it is probably preferable, therefore, to have the members serve for short, staggered terms and would suggest that S. 1075 be so amended.

We note that there is a difference of opinion over the desirable size of the council, and that some have proposed advisory committees for the Council also. If the Council were to have decisionmaking power, we think there would be considerable merit to proposals for enlarging the Council and providing it with an advisory committee.

These steps would serve as "checks and balances" to make sure that valid points of view were not overlooked, and would serve to impede hasty action. However, we believe the Council can be most effective if it is merely a study and oversight body. It should not be impeded in its studies by complicated internal "checks and balances." Necessary "checks and balances" should be external to the Council, and will be provided by the normal political mechanisms.

We believe that the three man Council that S. 1075 provides is the most efficient size. Increasing its size to five, as some have suggested, will greatly increase the complexity of the pattern of communication and interaction among the members. While some have suggested that a larger membership is needed to assure representation of enough disciplines, we cannot possibly see how even a membership of five would represent an adequate mix of disciplines. The only solution which seems practical to us is to build a sufficient support staff containing a proper distribution of disciplines, and to look for Council members who are valued as generalists with particularly useful insights and experience that they can offer. In this regard, we would not suggest any more specific standards of qualification than S. 1075 provides. In the new and changing field of environmental quality, the President should have great leeway in picking men of broad professional experience.

As S. 1075 is presently drafted, a degree of ambiguity pervades the description of the Council's specific functions. It is not clear what the balance is to be between its analytical functions and its responsibility for making recommendations.

A companion bill by Senator Nelson, S. 1752, would make program formulation the Council's principal duty, while S. 1075 specifies analy-

sis as its primary function. Senator Nelson's bill calls for the Council to submit recommendations for a national program in 4 years.

Similarly, an ambiguity surrounds the character of the reports the Council is to make periodically to Congress—and, incidentally, it is not clear whether these are to be annual or biennial reports (cf. sec. 202(c) of S. 1075 with sec. 203). The bill is exceedingly vague in setting forth the frame of reference to be used in evaluating the status of environmental systems and the trends affecting them.

We understand that thought is now being given to including a general statement of policy in the legislation. We think inclusion of this additional element would be most helpful. Inclusion of a policy statement would make it less necessary for the Council itself to produce a general policy statement to recommend to the President by some fixed date in the future. A broad policy statement from Congress would give the Council direction from the outset, and would provide a general goal for all Federal programs.

Moreover, a policy statement would provide a yardstick by which to measure the data gathered in the status and trend reports. By having a policy framework for its analytical work, the Council would be encouraged to surmount the danger of limiting itself to the unproductive task of merely forwarding the Congress compilations of undigested statistics. In tying status and trend reports to a policy goal, the Congress should make it clear that it wants interpretation and evaluation in these reports and stress upon significant indicators. Only if this is done, we feel, will the Council's work prove to be useful to the President, the Congress, and the public.

We believe the description of the environmental crisis that we provided in the beginning portion of this statement provides material which could be readily adapted to provide a basis for a general statement of policy.

Accordingly, we urge that this policy statement focus the definition of environmental quality on "the need to protect extra-market values associated with life support systems from unintentional degradation."

Undoubtedly, the concept of environmental quality also embraces market valued functions and intentional effects, but there are other organized ways of dealing with these aspects of the problem. The need is to focus attention on the more subtle aspects of the problem which thus far have been almost nobody's business. We feel it is time to make them paramount business of the Nation. If we do not, we shall all suffer the consequences in ways that will be increasingly less subtle.

In conclusion, let us stress, too, the importance of title I of S. 1075. We have expressed our strong support in the past before this committee for stepped-up ecological studies and an expanded system of natural area. Only through such studies, and ample research in a widely diversified system of natural areas, can we develop the basic knowledge to understand what we are doing to the environment.

The ecological research that title I would encourage can provide an increasingly sure footing for the broad analyses of the Council on Environmental Quality. We would suggest, however, that clear authority be provided for maintenance of a coordinated Federal system of natural areas and that there be clear direction to the Secretary of the Interior to foster development of systems of natural areas in

the hands of non-Federal entities (see subsecs. (8) and (9) of sec. 201 of S. 1805.)

Thank you, Mr. Chairman.

Senator ANDERSON. Thank you very much. I am sorry to have had you wait so long to make your statement. It is a very good statement.

Senator JORDAN?

Senator JORDAN. I have no questions. It is a very fine statement, certainly.

Senator ANDERSON. Mr. Clapper.

STATEMENT OF LOUIS S. CLAPPER, DIRECTOR OF CONSERVATION, NATIONAL WILDLIFE FEDERATION

Mr. CLAPPER. Good afternoon, sir.

I am Louis Clapper of the National Wildlife Federation. I would like to present my statement in full for the record and just make a few remarks for the record, if that would be all right with you.

Senator ANDERSON. Without objection, that will be done.

Mr. CLAPPER. My identification is in the statement that you have.

I should like to express the interest of my organization in the legislation before you. The National Wildlife Federation wanted to see what the average U.S. citizen thinks about environmental problems. As a consequence, we commissioned the highly respected Gallup Organization, Inc., to develop a survey of public attitude on this subject. This is the survey former Secretary Udall referred to that has been made available to the committee. This survey reveals that more than three-fourths of the people are concerned about the quality of environment and nearly three-fourths of those interviewed were willing to pay something in additional taxes to improve our natural surroundings, and to protect them.

We agree with the staff report of last summer that there is always a cost for using the environment, and we hope that these bills will result in a national policy to determine when the costs will be paid, how, and by whom. Therefore, we agree with the need and the desirability for a Council on Environmental Quality, as well as for a congressional oversight committee of some type.

Finally, Mr. Chairman, we hope that the committee will give attention to a conservation bill of rights, insuring citizens to a right to an unpolluted environment. We think these bills that have been introduced in Congress will work toward that end, and we hope that you will look them over and give them your favorable action.

Senator ANDERSON. Thank you. That is a very fine statement.

Senator JORDAN.

Senator JORDAN. No questions.

(The statement referred to follows:)

STATEMENT OF LOUIS S. CLAPPER ON BEHALF OF THE NATIONAL WILDLIFE FEDERATION

ECOLOGICAL SYSTEMS AND ENVIRONMENTAL QUALITY

Mr. Chairman, I am Louis S. Clapper, Director of Conservation for the National Wildlife Federation, which has national headquarters at 1412 Sixteenth Street, N.W., here in Washington, D.C.

Ours is a private organization which seeks to attain conservation goals through educational means. The Federation has Affiliates in 49 States. These Affiliates,

in turn, are made up of local groups and individuals who, when combined with associate members and other supporters of the National Wildlife Federation, number an estimated 2½ million persons.

We welcome the invitation to make these comments.

The National Wildlife Federation is pleased exceedingly at the awareness and concern which so many members of the Congress are expressing about damage to the environment. This concern is being reflected in many ways, including the introduction of bills such as those under consideration here today. And, our organization is hopeful that many of the proposals can attain final fruition and will be enacted.

Mr. Chairman, since its very inception in 1936, the National Wildlife Federation has been concerned about the environment. Various conservation problems, including the urgent need for water pollution control, were discussed in this initial annual convention. Since that time, our interests have been broadened into the total environmental picture. Overall, the National Wildlife Federation continues in its firm belief that contamination of the environment by water and air pollutants, by toxic chemicals, by solid wastes, and by noise, along with unwise practices relating to the extraction of minerals, the harvesting of timber, and grazing of livestock and protection of endangered wildlife, constitutes the major natural resources problems of the age.

Conservationists sometimes have been accused of talking only to themselves and, occasionally, at least this may be true. However, the National Wildlife Federation wanted to see what the average U.S. citizen thinks about environmental problems. As a consequence, we commissioned the highly-respected Gallup Organization, Inc., to develop a survey among a representative sample of the public. This survey was completed in late February of this year (1969). Here are some of the highlights:

About half (51%) of all persons interviewed expressed the opinion that they are "deeply concerned" about the effect of air pollution, water pollution, soil erosion, and destruction of wildlife in our natural surroundings. An additional one-third (35%) are "somewhat concerned."

Nearly three-fourths of those interviewed were willing to pay something in additional taxes to improve our natural surroundings.

Three of every four persons favor setting aside more public land for conservation purposes such as national parks, wildlife refuges, bird sanctuaries, etc.

The public is almost evenly divided on whether or not it will, at some time, be necessary to limit the human population if present living standards are to be maintained.

Summarizing this survey, Mr. Chairman, we conclude that the American public appreciates quality in the environment, deplores what is happening to it, and stands ready to support corrective measures, even to the extent of paying for it—as they will, one way or another, in the end. Copies of this survey are being made available to the Members of this Committee.

We were tremendously impressed by the special report developed for this Committee, "A National Policy for the Environment," and printed on July 11, 1968, for the informal joint House-Senate colloquium last summer. We agree wholeheartedly with the observation that: "What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment," as stated in that report. We also agree that there is a significant need for a national policy for the environment, also as stated in that report, to determine *when* payment for use of the environment is to be made, *in what form*, and *how* the costs are to be distributed. Subsequently, of course, this Committee joined the Committee on Science and Astronautics of the House in the issuance of a Congressional White Paper on the subject, and it was dated October, 1968.

And, now, Mr. Chairman, we are pleased that this Committee is studying S. 237, S. 1075, and S. 1752, which deal with the questions of ecological systems, natural resources, and environmental quality. In some respects, these bills appear to have a genesis in a proposal offered by the late Senator Murray in 1959. And, in some respects, these bills show an evolution and relationship to the aforementioned white paper.

Speaking principally to S. 1075, the National Wildlife Federation is in agreement with the stated purpose to promote and foster means and measures "which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources." S. 1752 speaks of a national policy along this line. S. 237 declares it is the continuing policy and responsibility of the Federal Government to create and

maintain the quality of the environment, and we like the reference to "enhancement of the national heritage for future generations."

Title I of both S. 1075 and S. 1752 outline a continuing program of research and investigations and provides for inventories and coordination. This information would be analyzed and interpreted by qualified personnel of a unit in the Executive Office of the President called the "Council on Environmental Quality" (or "Council of Advisors on Resources Conservation, and the Environment" in S. 237). We concur with the basic principle on the studies and the need for coordination. The extensive interrelationships of activities affecting the environment are handled by many agencies and coordination and cooperation is badly needed. Reports would be made annually by the President to the Congress, and with this requirement we are in agreement.

We note that S. 237 and S. 1752 would provide for special Congressional consideration of the President's views. These apparently would be provided as one of the alternatives suggested in the White Paper. We think an oversight Committee could perform a useful function but have no strong feelings on whether it should be of the "select" type outlined in S. 237 or a joint type proposed in S. 1752.

In conclusion, Mr. Chairman, I would like to point out that our organization went on record in the 33rd annual convention held here early this year as supporting a proposal to amend the Constitution of the United States by adding a "Conservation Bill of Rights" (copy attached). We believe that, in addition to other assurances spelled out in the Constitution, every citizen should have a right to an unpolluted environment. This alternative also was pointed out in the White Paper. While it is a cumbersome process, one requiring approval of two-thirds of the Congress and ratification by three-fourths of the States, if approved such an amendment could have a far-reaching and highly-significant influence in controlling future abuse of environmental values.

We hope that the best features of these proposals can be drawn into one bill which will find acceptance from the Committee. While it would not go as far as some conservationists would recommend—that the Council have meaningful enforcement powers—this bill can prove to be a useful instrument in protecting and enhancing the quality of the environment. To many of us, this is what makes life worth living.

Again I thank you for the opportunity of making these observations.

NATIONAL WILDLIFE FEDERATION, 33D ANNUAL CONVENTION, WASHINGTON, D.C.,
FEB. 28-MAR. 2, 1969, RESOLUTION No. 3

CONSERVATION BILL OF RIGHTS

Whereas, as with other rights assured by the United States Constitution, every citizen should have a right to an unpolluted environment; and

Whereas, to implement this right, the Congress must prepare and maintain an inventory of existing resources and provide for their protection; and

Whereas, actions which may adversely affect these resources must be subjected first to a public hearing;

Now, therefore, be it resolved, That the National Wildlife Federation, in annual convention assembled Feb. 28-March 2, 1969, in Washington, D.C., hereby asserts its support of a proposal to amend the Constitution of the United States by adding a "Conservation Bill of Rights."

Senator ANDERSON. Mrs. Donald Clusen.

STATEMENT OF MRS. DONALD E. CLUSEN, SECOND VICE PRESIDENT, LEAGUE OF WOMEN VOTERS OF THE UNITED STATES

Mrs. CLUSEN. Mr. Chairman, I should like to request that the full text of this statement be inserted in the record and I shall summarize very briefly.

Senator ANDERSON. That will be done. We thank you very much.

Mrs. CLUSEN. The League of Women Voters supports creation of the Council on Environmental Quality. Indeed, we have supported something of this nature since 1960, when we first appeared before this committee in behalf of a council of resources and conservation

advisers. We felt the need was great then and we think it is even greater now.

Over the years, we have worked for passage of several legislative proposals which have come from this committee in order to improve coordination between Federal agencies in the water field, which is really the focus of our particular interest in natural resources. Indeed, we think the Water Resources Planning Act and the National Water Commission Act, in which the commission had a part, were very important additions to the Federal record in this area.

We have seen again and again the need for coordination between departments, between agencies within the departments, between public projects and between public and private projects. We think that at the present time, we are wasting our funds, our time, and our energy letting one interest undo what another interest has been working to accomplish. We think it is quite necessary that the President, who is really the only person who can insist that the departments and bureaus in the executive branch cooperate with one another, receive advice from outside the Federal departments, because each of these has its own statutory responsibilities and its own interested clientele.

We have also been interested since 1960 in developing Federal procedures to provide the President and the Congress with the kind of data and the framework within which alternative choices could be weighed, and we think this council would be a very helpful body to have outside the operating and construction agencies, with the duty of evaluating alternatives and their effect on environmental quality.

We think the public needs help in recognizing the choices that have to be made and that the council could provide sound and solid information on which to base value judgments. Although we have never been an organization to encourage a proliferation of ad hoc councils and commissions, we do see merit in this kind of a quality-facilitating body that would analyze information and do advanced thinking to help chart the direction in which the Nation is moving.

The league is convinced that improved management will come about only if the advisory body has great stature and if it can communicate readily with the President, because then it will reach an important audience with its reports and be not lost in departmental inertia. So we see the role of this Council as paralleling the role of the Council of Economic Advisers. We think the most effective arrangement would be to have a group of people whose names would become known to the public, contemplating on and clearly responsible for reporting and advising on environmental quality matters.

With regard to the possibility of a Joint Committee on Natural Resources, remembering back to 1960, when it probably was first developed, we think the creation of a Joint Committee on Environment is improbable. However, the league would like to see the creation of a Council in Environmental Quality in the Executive Office of the President paralleled by the creation of a Senate Select Committee with representation from all committees having jurisdiction over any aspect of environmental quality. We found the Senate select committee operation with regard to water resources had a very stimulating effect, and we think the same kind of a Senate Select Committee on Environmental Quality might be a very helpful addition to this field.

We do think it might be helpful to have the studies which the bills

before us would want to be carried out as far as possible directly under the planning and supervision of the Council.

We think that the establishment at least of the framework and the necessary data could be done, at least under contract from the Council, thus removing it from, at least in the first stages, a single department.

We appreciate, in your limited amount of time, the opportunity to appear before you today and have our views become a part of the record.

Thank you.

Senator ANDERSON. Thank you very much. We thank you for a good statement.

Senator Jordan.

Senator JORDAN. Thank you.

We appreciate the contribution by your fine organization to such matters as this and many others through the years, with your excellent work.

Mrs. CLUSEN. Thank you.

(The complete statement referred to follows:)

STATEMENT OF MRS. DONALD E. CLUSEN, SECOND VICE PRESIDENT, LEAGUE
OF WOMEN VOTERS OF THE UNITED STATES

I am Mrs. Donald E. Clusen, a vice president of the League of Women Voters of the United States and chairman of its water resources committee. The League of Women Voters of the United States, with 150,000 members organized in over 1,250 local Leagues in the 50 states, the Commonwealth of Puerto Rico, the Virgin Islands, and the District of Columbia, supports creation of a Council on Environmental Quality, which will provide information, advice, and assistance to the President. In 1961 Mrs. Whittemore again spoke for the League in support resources, conservation, and environmental conditions.

CONTINUING NEED

In 1960 a former chairman of the League's national water committee, Mrs. Arthur E. Whittemore, appeared before this committee to speak in support of Senator Murray's bill to create a Council of Resources and Conservation Advisors to the President. In 1961 Mrs. Whittemore again spoke for the League in support of bills by Senators Engle and McGee to set up such a council in the Executive Office of the President.

The League thought the need for such a body existed then; we think it is greater now. In the intervening years our members have become increasingly involved in problems of water pollution, sewer and sewage treatment plant funding, dumping and dredging regulations, preservation of wetlands and estuarine areas, water quality standards, interbasin division, effect of nuclear power-generation plants, effect of pesticides on water quality, weather modification to increase water supply, eutrophication in lakes, oil spills, wastes from boats, and land use along lakes, rivers, and coasts.

In connection with League work on water—the only natural resource topic on our program—our members are deeply concerned about degradation of the environment.

Over the years the League of Women Voters of the United States has worked for passage of several legislative proposals put forward by this committee and enacted by the Congress to improve coordination between federal agencies in the water field, provide for improved planning, and examine long range national water problems and policies. We think the Water Resources Planning Act and the National Water Commission Act were worthwhile measures. We think they will help the nation reach more rational decisions, but we know that they impinge on only a small part of the total environmental problem.

POLICY AND PROGRAM COORDINATION

Since the League became interested in water resources in 1956, our members have been concerned with problems of coordination between the many depart-

ments and agencies involved in federal water resource activities. Again and again we have seen the need for coordination between departments, between agencies within a department, between public projects at all governmental levels, and between public and private projects. We are wasting our funds, our time, and our energy letting one interest undo, and in a fully legal way, what another interest has been working hard to accomplish.

We recognize that coordination, like motherhood or clean water, receives general approbation, but that agencies and departments prefer to see other bodies coordinated rather than themselves. Therefore we think it necessary that the President—the only person who can insist that departments and bureaus in the Executive Branch cooperate with one another—receive advice from outside the federal departments, each of which has its own statutory responsibilities and customary interests and clientele.

CHOICE OF ALTERNATIVES

Since 1960 League members have favored developing federal procedures to provide the Executive and Congress with adequate data and a framework within which alternative choices could be weighed. We think it would be helpful to have somebody outside the operating and construction agencies that would have the duty of evaluating alternatives and their effect on environment quality.

We are convinced that the public needs help in recognizing the possible choices that could be made. We are convinced that many people are eager for sound and solid information on which to base value judgments. From our experience with water quality standards we know that preserving environmental quality will mean that citizens and industry must give up some freedom to do as they please. Stricter self-discipline will come about only if there is clear understanding of the consequences of carelessness. People will be persuaded to accept the necessary controls only if they have great confidence in the objectivity of the advisors.

ORGANIZATIONAL LEVEL

Although League members never wish to encourage proliferation of statutory or ad hoc councils and commissions, we see merit in a policy-facilitating body that analyzes information, does advanced thinking, helps to chart the direction in which the nation is moving, recommends to the President, and reports to Congress and the public.

The League is convinced that improved management will come about only if the advisory body has great stature, can communicate readily with the President, will reach an important audience with its reports, and is not lost in departmental inertia.

We see the role of the Council on Environmental Quality paralleling the role of the Council of Economic Advisors. The views of such a council on environmental quality would carry weight because it would be aloof from ties with construction agencies, it would not represent departments containing bureaus with programs of their own, it would not be a regulatory or enforcement agency.

We think the most effective arrangement is to have a few able people, whose names become known to the public, concentrating on and clearly responsible for reporting and advising on environmental quality matters. Therefore, the League supports creation of a Council on Environmental Quality in the Executive Office of the President.

ROLE OF CONGRESS

Remembrance of senatorial views when a joint committee on natural resources was suggested in 1960 makes us think that creation of a joint committee on environment is improbable. However the League would like to see creation of a Council on Environmental Quality in the Executive Office of the President paralleled by the creation of a Senate select committee with representation from all committees having jurisdiction over any aspect of environmental quality.

Somebody in the Congress will be needed to examine and weigh, as a whole, the council's annual report forwarded to the Congress by the President. Although the regular standing committees would continue to exercise their legislative and oversight responsibilities, a Senate Select Committee on Environmental Quality could have the same stimulating effect as the temporary Senate Select Committee on Water Resources. Policy formulation and implementation will, of course, remain in the hands of the elected political leaders.

Senator ANDERSON. Rev. John Corrado is next.

STATEMENT OF REV. JOHN CORRADO, DAVIES MEMORIAL
UNITARIAN CHURCH, CAMP SPRINGS, MD.

Reverend CORRADO. My statement is brief, Mr. Chairman, so I shall read it right through, if that is all right.

Senator ANDERSON. Proceed.

Reverend CORRADO. My name is John Corrado. I am minister to the Davies Memorial Unitarian Church of Camp Springs, Md. This afternoon it is my pleasure to speak on behalf of the Unitarian Universalist Association in support of Seante bill 1075 and other bills like it.

In 1966 the general assembly of our denomination passed overwhelmingly a resolution which supported the environmental control legislation the U.S. Congress had passed up to that time, and recommended "further legislation and administrative action providing adequate appropriations to deal with forest and wilderness area preservation, air, water, and land pollution, spoilation, and the disposal of sewage and industrial wastes." The bill before you represents a firm step in that direction.

Technology, once hailed as the hope of mankind, now threatens decay through massive pollution of the environment upon which all life depends. Man's careless inattention to the dynamics of nature has intensified this deterioration. Unitarian Universalists assert the right of every man to a life-giving environment reasonably free of toxic chemicals; further, we assert that it is the responsibility of those now living to set priorities for action that will insure the earth's future tenants an environment that is amenable to life. By establishing a framework for a continuing program of research and study, the machinery established by S. 1075 would provide the data on which such important priorities could be determined. We know, for example, that every day 4,000 acres of land are "developed" in the United States—that's equal to devouring an area equal to the size of Rhode Island every 6 months. Is such ambitious "development" worthwhile in the long run? Will it have ill effects on the ecological web of life? What kind of environment will it leave for future generations? A program of study and research could address such questions and perhaps suggest alternatives to unbridled "development" of our land. Questions concerning our environment could be addressed before they become problems of our environment.

Hydrologists tell us that the Washington, D.C., area will start having difficulties with summer water shortages in another year. Had the bill before you now been passed years ago, study and planning might have prevented what may become a serious crisis here.

And what of the mighty Mississippi which is now the mighty filthy Mississippi or the once great lake, Lake Erie, which is now acknowledged by ecologists to be a dead lake? The examples are many. Will it soon be a case of "water, water everywhere but not a drop to drink?" Hopefully a national strategy for management of human environment could help to eradicate such problems, but even if it couldn't, it could certainly help prevent similar problems from occurring in the future.

Along this line, I am alarmed to read that the Atomic Energy Commission is planning to hold underground tests for the antiballistic missile warheads in the island of Amchitka in the midst of the Aleutian

Islands National Wildlife Refuge, endangering some of our rarest forms of wildlife, including the bald eagle, the very living symbol of the United States of America; sea otters and declining species of Canada goose which live there. I believe this committee could strike a blow for sanity in our environment, right now, by raising its voice against this threatened desecration of our national treasure.

The problems of environmental control are immense and complex. We feel that the bill before you is justly comprehensive and open ended in its scope. We welcome Senator Jackson's bill as a move toward elevating the issue of ecology to front rank in public policy consideration.

Favorable enactment of this legislation will be a signal to the Nation that the Congress intends to place questions of environment at the top of the agenda along with questions of foreign and defense policy and urban affairs, all of which are represented in the inner councils of the White House at the present time. Such action would be giving recognition to the fact that stewardship of our environment is truly a matter of life and death.

Thank you.

Senator ANDERSON. Thank you very much. It is very kind of you to have had patience with the committee for so long. I thank you very much.

Senator Jordan.

Senator JORDAN. I have no questions. Thank you very much.

Senator ANDERSON. I also would like to mention the fact that the Senator from Idaho has been most patient.

At this point, there will be inserted into the record a statement by Senator Kennedy of Massachusetts.

(The statement referred to follows:)

STATEMENT OF HON. EDWARD M. KENNEDY, A U.S. SENATOR FROM THE STATE OF MASSACHUSETTS

It is a pleasure for me to have this opportunity to support S. 1075, which is so forward looking in its goal and far-reaching in its scope. I am also happy to be one of its co-sponsors.

S. 1075 is designed to deal with circumstances created by the increased application of technological advances which effect, in new ways, the relationship of man and his environment. We are already painfully aware of some of the effects of applied science and industrial advancement on man and on his environment—air and water pollution, noise pollution, destruction of our forests and of our other natural resources. We are aware of these problems; but, even now, we are not sure of their final effect on the physical well-being of our people, or on the nature of the land that has made this nation the affluent and self-sufficient nation that it is.

All too often, we in the Congress are given the task of passing legislation which has as its purpose the restoration, rehabilitation or revitalization of some phase of our American life and environment. Problems reach the critical stage before we act, and quick action is needed to prevent total destruction of that phase of life or environment.

Never has this fact been more obvious than now. A review of legislation passed during the past two sessions of the Congress is dramatic evidence—we have voted billions of dollars to rehabilitate our cities, to stem the rise of water pollution, to rid our land of air pollution, to establish regional planning agencies, to revitalize our declining industries, and to restore and preserve our natural resources. How much less costly it would have been to anticipate these effects of undisciplined planning and unchecked technological application.

S. 1075 is designed to meet our responsibilities in predicting the demands created by the everchanging relationship of man and his environment. It is a

bill which endeavors to anticipate the important and potentially critical problems created by the technological assault on our natural and human environment, and plan for their management. By authorizing the Secretary of the Interior, as is proposed in Title I of the bill, to conduct investigations, studies, surveys, and research relating to the nation's ecological systems and environmental quality, we will ensure that the Federal Government has at its disposal the most recent and significant data available. Presently, such programs are carried out by no fewer than 27 of our Executive and Independent agencies, and they are marked by contrasting and duplicating results. Through the Office of the Secretary of the Interior, acting as a conduit of information and research assignments, the results of a fractured administrative organization within the Executive Branch of the Federal Government can be eliminated.

Title II of S. 1075, to establish a Council on Environmental Quality in the Office of the President, would provide the President with a ready source of informed experts on the overall environmental trends operating at any particular point of time. Through this office, the President would be prepared to send to the Congress the legislation necessary to introduce controls related to a specific area of the environment, so that the balance between man and his environment may be maintained. The Council on Environmental Quality and the Secretary of the Interior would be, then, the review board for the consideration of alternative solutions to all environmental problems.

For the reasons described above, and for the reason that this bill is indeed contributory to our efforts to maintain, preserve, and develop our environment in concert with the continuing need for that environment to serve the best interest of man and his needs, I support this legislation. I urge the Committee to report favorably on it. And I assure you that I will work for its passage on the Floor of the Senate.

Senator ANDERSON. The hearing record on these bills before the committee today will remain open for 10 days to allow the filing of supplemental statements. If there is no objection, additional materials on the quality of the human environment will be added at this point in the hearing record.

(The letters referred to follow:)

NEW YORK, N.Y., April 18, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I appreciate your letter of April 3 inviting me to testify before your Committee on April 16 to consider S. 1075, a bill to establish a national strategy on human environment. Unfortunately, I could not be there but am glad to respond by means of this letter and would be pleased to have it included in the record of your hearings.

This response is in my capacity as a private citizen rather than as Chairman of the Citizens' Advisory Committee on Recreation and Natural Beauty. The Committee is currently considering the issue of environmental organization and protection, and our recommendations are not yet formulated.

I am strongly in favor of the general objectives of your bill. We need an improved mechanism to bring environmental issues to the attention of the highest levels of government and to the American people. We also need a means of establishing policy goals and priorities for the environmental programs of the many federal agencies involved. Implicit in this is, of course, the need for closer co-operation and coordination. These are, by now, almost trite phrases, but they remain real needs.

I strongly feel there is action needed by both the Congress and the Executive Branch working in harmony to resolve what in your own words is "a new focus for public policy." In my belief, environmental problems have emerged in recent years as the most pressing domestic problem of our Nation. This letter does not attempt to offer detailed suggestions as to the institutional changes that would be desirable if environmental problems are to be effectively met; but it is clear that changes should be made.

My hope is that the 5-man Council on Government Reorganization recently named by President Nixon and chaired by Roy L. Ash of Litton Industries will give this matter urgent and high priority attention. Also, I believe that if Senator

Ribicoff's bill S. 293 is enacted, the question of environmental organization of the Executive Branch should be of top priority.

We are not informed on the details of the proposal for an Environmental Council currently being considered by the Administration. It may well be, as you suggest, that both the Advisory Council who proposed your bill and the Environmental Council being considered by the Administration would complement each other. This would be particularly true if one were concerned with long-range policy and strategy and the other with more immediate coordination of federal programs. However, I would hope that any legislative and administrative action would be taken in concert toward the goals I know both branches of government share.

Thank you for writing. I would be privileged to discuss any of these matters further with you at your pleasure.

Sincerely,

LAURANCE S. ROCKEFELLER.

THE UNIVERSITY OF WISCONSIN,
Madison, Wis., April 23, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: I would like to present to your Committee my strong support of a Council on Environmental Quality, such as outlined in Bills S 1075, S 1752 and S 237. I would gladly have honored your invitation to testify on these bills except for previous commitments.

Except for the dangers of atomic war, nothing is more important to the safety and well-being of the United States and the world than maintenance of an optimum human environment; there is simply no question that man is the result of evolution in a high quality environment, which now is being destroyed through neglect, ignorance or greed. We cannot live as adapted healthy beings apart from it. We are in fact a part of it! As the enclosed manuscript shows (it will be printed this summer in the *Bulletin of the Atomic Scientists*), we must now begin to direct all our best research efforts and moral imperatives to insure a quality environment for the human species. The United States must take leadership in this effort because we are the technological leaders of the world, and therefore also the worst environmental offenders.

I support wholeheartedly these three bills. I think it imperative that this Council on Environmental Quality have power and independent judgment. I am aware that the Nixon administration is considering establishing some sort of environmental overview mechanism, perhaps by setting up an interdepartmental committee (HEW, USDA, Interior, etc.). Considering the great need for a strong advisory council to the President on vitally important environmental matters, I think such an interdepartmental committee would be unable to take the independent and objective view needed to properly evaluate the issues. Only an *independent council* such as suggested by these three bills, could do the job.

The enclosed manuscript, "Criteria for judging an optimum environment", especially for man, suggests broad guidelines for the functioning of a Council on Environmental Quality. I would like to request that it be included, together with this statement, as part of the record of the hearing.

Sincerely,

HUGH H. ILTIS,
Professor of Botany.

[Enclosure]

CRITERIA FOR JUDGING AN OPTIMUM ENVIRONMENT—CULTURAL VIEWS OF AN OPTIMUM ENVIRONMENT REFORMULATED ON BIOLOGICAL BASES

(Hugh H. Iltis, Orie L. Loucks, and Peter Andrews)¹

Almost every recent issue of the major science journals is directed in part to an overwhelming interest in one urgent question: Shall a single species of animal, man, be permitted so to dominate the earth that life as we know it is threatened?

¹ Drs. Iltis and Loucks are professors of Botany, University of Wisconsin, Madison. Mr. Andrews is an affiliated student in Archeology and Anthropology, St. John's College, Cambridge, England.

The uniformity of the theme is significant, but if there is consensus it is only as to the need for concern. Each science looks differently at the problem of how to deal with man's imminent potential to modify the earth through environmental control. Proposals for finding how to redirect trends in population, space, and resource relationships toward an "optimum" for man are so diverse as to bewilder both scientists and research-supporting agencies. Only the most poorly informed of the public seem satisfied that unlimited and uncontrolled technological advances will still leave a land fit for man to live in.

It is no thirst for argument that compels us to add a further view. Rather it is the sad recognition of major deficiencies in the policies and politics guiding government support of research on maintaining and improving quality in our environment. Many writers find the present situation so desperate that even short-term treatments of the symptoms look attractive. We rapidly lose sight (if we ever think of it at all) of man's very recent origins, probably on the high African plains, and the natural environment that shaped his physical and psychological response systems. Part of the scientific community also accepts what Lynn White of the University of California at Los Angeles has called our Judeo-Christian arrogance toward nature, and is gambling on superior technology to deliver the necessary food, clean water, and fresh air. But are these the only necessities? Too few scientists are willing to ask effectively whether man has other than these basic needs. Is there any limit to the artificiality of the environment that man can tolerate? Very little support is available for such studies, even if they were proposed.

We wish also to examine which areas of science have the responsibility to initiate and carry out studies needed to reveal the limits of man's tolerance to environmental modification and control. We are especially concerned about the view presented by Eric Hoffer in the *Saturday Review* of February 1966, suggesting that social criteria for environmental quality can have no innate biological basis, that they are only conventions. Yet, on the other hand, there is increasing evidence that mental health and the social stability of populations may be profoundly influenced by the frustrating aspects of an urban, biologically artificial environment.

A few proposals are being made for large-scale inter-disciplinary studies of our environment, and of the future of man. However, we know of no proposal that combines the capabilities of scientists in environmental design with those of a group examining the psychological and mental health responses of man to natural landscapes. Social scientists study the annual mass migration of urban man out of his "canyons of anxiety" into the natural landscapes, but the research in this area will be more significant when joined with studies that quantify landscape quality, the psychology of individual human response, and the evolutionary basis of man's possible genetic adaptation to nature.

POINTS OF DEPARTURE: FACTS AND FEARS

We regard two points as well enough established to provide the foundation of our argument. First, we believe the inter-dependency of organisms, in a "web of life", is now documented as essential to maintaining life and the environment as we know it. We need not proceed further with the evidence of deterioration in the natural environment due to unintended, or thoughtless, disruptions at the base of the food pyramid. The suffocation of aquatic life in water systems, such as Lake Erie, and the spread of pollutants in the air and on the land, such as DDT, make clear that the "web of life" for many major ecosystems is indeed seriously threatened. The abrupt extinction of otherwise incidental organisms, or their depletion to the point of no return, threatens permanently to impair our fresh-water systems and coastlines. The die-off of large populations of alewives on Lake Michigan shores is an example, as is the decline of the bald eagle. Man is an indivisible part of these biological systems, both as a cause of the deterioration and as an organism to be greatly affected.

Secondly, man's recent evolution is now well enough understood to play a major part in understanding the relationship of man to his natural environment. The major selection stresses, mechanisms by which the fittest survived, were influenced early by the gregarious tendencies of man, and have reinforced the development of community social structures. These aspects of "environment" must be considered with the immense potential of learned adaptations over the entire geologic period of recent physical evolution. George Gaylord Simpson of Harvard University has said it is "the biological nature of man, both in his evolutionary history and in his present condition, that presents us with our only fixed point

of departure." Unfortunately, scientists, like most of us moderns, are city dwellers dependent on social conventions. They, too, have become progressively isolated from the landscape where man developed, but where the benchmarks pointing to man's survival may now be found.

The immediacy of problems relating to environmental control is so startling that the threat of a frightening and unwanted future is another point of departure for our views. The report of the Environmental Pollution Panel, President's Science Advisory Committee, shows that at the present rate of advance in technology and agriculture, there remain only a few years until all of life, even in the atmosphere and the oceans, will be under the conscious dictates of man. While all of us must accept this general result as inevitable, the methods leading to such control offer some flexibility. It is among these that we must weigh and reweigh the cost-benefit ratios, not only for the next 25 or 50 years, but for the next 25,000 or more. The increasing scope of the threat to man's existence within this controlled environment demands radically new criteria for judging both "benefits to man" and "optimum environments."

It would be perverse not to acknowledge the immense debt of modern man to technological development. In mastering his environment, man has been permitted a cultural explosion and attendant intricate civilization made possible by the inventiveness of modern agriculture, an inventiveness which must not falter if the world is to feed even its present population. Agricultural technology of the 19th and 20th centuries, from Liebig and the gasoline engine to hybrid corn, weed killers, and pesticides, has broken an exploitative barrier leading to greatly increased production and prosperity in favored regions of the world. But this very success has imposed upon man an even greater responsibility for managing all of his physical and biotic environment to his best advantage.

Another view has been expressed recently by Augustus Braun Kinzel of the Salk Institute for Biological Studies in San Diego. Writing in *Science*, he suggests that the "balance of nature" upset by massive use of non-disintegrating detergents and pesticides, will be restored by "new engineering". Such an answer is necessarily based on the assumption that it is only an engineering problem to provide what Kinzel calls "an environment relatively free from unwanted man-produced stress." But even if the engineering were successful, the very success dissipates our abilities to see humans as part of the complex biological balance, and even more difficult engineering problems are generated. The more successful technology and agriculture become, the more difficult it is to ask pertinent questions and to expect sensible answers on the long-range stability of the system we build.

Inspired by recent success, some chemical and agricultural authorities still hold firmly that we can amply feed the world by using suitable means to increase productivity. There is a conviction that we can and must bend all of nature to our human will, to feed the ever-increasing billions of humanity. Paul Ehrlich's new book *The Population Bomb* and the Paddock brothers' *Famine-1975* are grim reminders not only of the impossibility of this aim, but of other consequences—the loss of all open space to food production. The spectre of the population explosion, and its relation to the current world-wide unrest and environmental deterioration, is still far too little appreciated. This is clear in Pope Paul's negative encyclical on birth control, unencumbered as it is by any consideration of man's relationship to open space and nature.

If open space were known to be as important to man as is food, could we not find ways to assure both? Would we then not insist on population limits? Who among us has such confidence in modern science and technology that he is satisfied we know enough, or that we are even asking the right questions, to ensure our survival beyond the current technological assault upon our environment? The optimism of post-World War II days that man can solve his problems, the faith in science that we of Western culture learn almost as infants, appear more and more to be unfounded.

CONSIDERATIONS ARISING FROM EVOLUTION

Darwin believed that questions concerning the future of man should be answerable in part from his evolutionary past. To answer "what does man now need?" we must ask "where has he come from?" and "what evidence is there of continuing genetic ties to surroundings similar to those of his past?"

The noted geneticist Theodore Dobzhansky stressed in *Science* a year ago that man is unique. But the fact of this uniqueness does *not* separate him from animals. Others have emphasized the many more similarities with mammalian

associates, rather than differences. Man is the product of over a hundred million years of evolution among the mammals, of over 45 million years among the primates, and of over 15 million years among apes. While his morphology has been essentially human for about two million years, the refined neurological and physical attributes of "recent" man are but a few hundred thousand years old.

George G. Simpson has noted that those among our primate ancestors with faulty senses, who misjudged distances when jumping for a tree branch, or who didn't hear the approach of predators, *died*. Only those with the characteristics of agility and alertness that permitted survival in ruthless nature lived to contribute to our present-day gene pool. Medical geneticists acknowledge that such selection pressure continued with little modification until the rise of effective medical treatment and social reforms during the last four generations. The sustained selection over hundreds of generations can only have led to precise adaptations for the environment producing the selecting mechanisms, adaptations which are not likely to be appropriate to the man-modified environment we are now forced to live in.

These are evolutionary reasons that make it likely that man is as genetically programmed to a natural habitat of clean air and a varied green landscape as any other mammal. To be relaxed and feel healthy usually means simply allowing our bodies to react in the way for which 100 million years of evolution have equipped them. Physically and genetically we appear best adapted to a tropical savanna, but as a civilized animal we adapt culturally to cities and towns. For scores of centuries in the temperate zones we have tried to imitate in our houses not only the climate, but the setting of our evolutionary past: warm humid air, green plants, and even animal companions. Today those of us who can afford it may even build a greenhouse or swimming pool next to our living room, buy a place in the country, or at least take our children vacationing at the seashore. The specific physiological reactions to natural beauty and diversity, to the shapes and color of nature, especially to green, to the motions and sounds of other animals, we do not comprehend. Yet society seems reluctant to require consideration of these things in studies of environmental quality. It is evident that nature in our daily lives must be thought of, not as a luxury to be made available if possible, but as part of our inherent biological need, essential in studies of resource policies for man.

EVIDENCE OF TIES TO NATURAL ENVIRONMENTS

Abundant information is available from recent studies in anthropology, psychology, and environmental design which has obvious implications for our attempts to build a biologically sound human environment. Unfortunately, the results frequently are masked by the specifics of the studies themselves. Except for the synthesis attempted by Konrad Lorenz in the book *On Aggression* little has been done to extend the implications of these studies to modern social and economic planning. For example, Ardrey's popular work, *The Territorial Imperative*, explores territoriality as a basic animal attribute, and tries to extend it to man. But in this study, experimental evidence is limited, and we have no clear conception of what the thwarting of this instinct does to human happiness. Other reports on the nature of aggression have explored the evolutionary roots of animal conflicts, roots that were slowly developed by natural selection over millions of generations. These studies, and the book *Human Aggression* by the Englishman Storr, tell us that the sources of drive, achievement, and even conflict within the family, and war among men, are likely to be related to primitive animal responses as well as to culture.

Evidence also exists that man is genetically adapted to a nomadic hunting life, living in small family groups and having only rare contact with larger groups. As such he led a precarious day-to-day existence, with strong selective removal due to competition with other animals, including other groups of humans. Such was the population structure to which man was ecologically restricted and adapted until as recently as 500 generations ago. Unless, in the interval, there has been a shift in the major causes of human mortality *before* the breeding age (and except for resistance to specific diseases there is no such evidence), this period is far too short for any significant changes to have occurred in man's genetic make-up. Dobzhansky's "evolutionary optimism" to the contrary, there is no evidence whatever that the past dozen generations have or could have produced the substantial selective mortality that would lead to various genetically fixed adaptations to urban environments.

Studies of neuro-physiological responses to many characteristics of the environment are also an essential part of investigating genetic dependence on

natural as opposed to artificial environment. The rapidly expanding work on electroencephalography in relation to environmental stimuli is providing evidence of a need for frequent major changes in surroundings for at least short periods. More specifically, qualities of diversity are required in the surroundings. There is reason to believe that the electrical rhythms in the brain are highly responsive to changes in surroundings when these take the full attention of the subject. The rise of mechanisms for maintaining constant attention to the surroundings can be seen clearly as a product of long-term selection pressures in a "hunter and hunted" environment. Conversely a monotonous environment produces wave patterns contributing to fatigue. One wonders what the stimuli of brick and asphalt jungles, of constant noise, or the monotony of corn fields, do to the nervous system. Biotic as well as cultural diversity, from the neurological point of view, may well be a fundamental basis for the general health that is the goal in discussions of environmental quality.

Also worth noting are the interesting results of Maxwell Weismann of the Maryland Department of Mental Health in taking chronically hospitalized mental patients camping. Hiking through the woods was the most cherished activity. Some 35 of the 90 patients were returned to their communities within three months after the two-week camping experience. Many considerations are involved, but it is possible that in a person whose cultural load has twisted normal, culturally adaptive functioning into bizarre reactions, his innate genetic drives still continue to function. Responses attuned to natural adaptations would require no conscious effort. An equally plausible interpretation of Weismann's results is that the direct stimuli of the out-of-doors, of nature alone, produces a response toward the more normal. A definitive investigation of the bases for these responses is needed as guidance to urban planners and public health specialists alike.

The examples adduced above are concerned with the negative effects which many see as resulting from the unnatural qualities of man's present, mostly urban environment. Huxley ventures a further opinion in *Brave New World* as he considers the abnormal adaptation of those hopeless victims of mental illness who appear most normal: "These millions of abnormally normal people, living without fuss in a society to which, if they were fully human beings, they ought not to be adjusted. Still cherish 'the illusion of individuality', but in fact they have been to a great extent deindividualized. Their conformity is developing into something like uniformity. But uniformity and freedom are incompatible. Uniformity and mental health are incompatible as well. . . . Man is not made to be an automaton, and if he becomes one, the basis for mental health is lost."

Clearly, a program of research could tell us more about man's subtle genetic dependences on the environment of his evolution. But of one thing we can be sure: only from study of human behavior in its evolutionary context can we investigate the influence of the urban environment on the life and fate of modern man; even now we can see the bases by which to judge quality in our environment, if we are to maintain some semblance of one which is biologically optimum for humans.

RESEARCH FOR AN OPTIMUM ENVIRONMENT

We do not plead for a return to nature, but for re-examination of how to use science and technology to create environments for human living. While sociological betterment of the environment can do a lot to relieve poverty and misery, the argument that an expanding economy and increased material wealth alone would produce a Utopia is now substantially discounted. Instead, a national concern for the quality of life in our affluent society is evident. But few economists or scientists have tried to identify the major elements of the quality we seek, and no one at all has attempted to use evolutionary principles in the search for criteria of quality. Solutions to the problems raised by attempts to evaluate quality will not be found before there is tentative agreement on the bases for judging an optimum human environment. A large body of evidence from studies in evolution, medicine, psychology, sociology, and anthropology suggests clearly that *such an environment will be a compromise between one in which humans have maximum contact with the properties of the environment to which they are innately adapted, and a more technological environment in which learned adaptations and social conventions are relied upon to overcome primitive needs.*

Our option to choose a balance between these two extremes runs out very soon. Awareness of the urgency to do something is national, and initial responses

may be noted in several well-established but relatively narrow scientific disciplines. There has been the recent revival of eugenics. A balanced view has been proposed by Leonard Ornstein of Mt. Sinai Hospital, New York, who agrees with others that positive improvements in man's genetic make-up must wait until we are vastly more knowledgeable. He recommends control of degenerating effects from uncontrolled mutation (in the absence of high selection) until more positive measures can be taken.

More extreme is the view that man could be changed genetically to fit any future, particularly the mass megapolis, but means to do this and the moral justification of the aims sought are still far from being resolved. Many, such as Dobzhansky and Kinzel, support the so-called evolutionary and technological optimists, who, unlike their forefathers of little more than a generation ago, believe man, or his environment, can be changed radically when the time comes. They show a faith that science has proved its ability to draw on an almost unlimited technology to do the impossible. The technologically impossible seems to have been accomplished time and time again during the past two or three generations, and will happen again. But some important scientific objectives have not been achieved, and we are likely to become more aware of the failures of science, of the truly impossible, as the irreversible disruptions of highly complex biological systems become more evident.

We suggest that the alternative to genetic modification of man is to select a course where the objectives only verge on the impossible. Let us regard the study and documentation of criteria for an environmental optimum as the "nearly impossible" challenge for science and technology in the next two decades! Although considerable research in biology, sociology, and environmental design is already directed to this objective, there are several other types of study required that we will outline briefly, simply to indicate the scope of the challenge.

First, a thorough examination must be undertaken of the extent to which man's evolutionary heritage dominates his activity both as an individual and in groups. The survival advantages of certain group activities have clearly figured in his evolutionary success and adaptive culture. In *The Naked Ape* Desmond Morris shows that although cultural adaptation now dominates the biological in the evolution of man, his basic animal nature has not changed. Research leading to adequate understanding of the need for man to meet innate genetic demands lies in a combination of genetics, physical anthropology and animal behavior studies.

Secondly, further comprehension must be sought of how cultural adaptations and social conventions of man permit him to succeed in an artificial environment. Cultural adaptation is the basis of his success as a gregarious social animal, and it will continue to be the basis by which he modifies evolutionarily imposed adaptations. Medical studies suggest there may be a genetic limit to the magnitude of cultural adaptations, and that for some people this has been nearly reached. Studies in sociology, cultural anthropology, and psychology are all necessary to such research, in combination with environmental design and quantitative analysis of diversity in the native landscape.

Third, relationships between the health of individuals, both mental and physical, and the properties of the environment in which they live should be a fundamental area of study. It is easy to forget that we should expect as much genetic variability in the capacity of individuals to adjust to artificial environments as we find in their physical characteristics. Some portions of the population can be expected to have a greater inherent commitment to the natural environment, and to react strongly if deprived of it. Others may be much more neutral. Studies of the population as a whole must take into account the variability in reaction, and must therefore consider population genetics as well as environmental design.

Fourth, environmental qualities should be programed so as to optimize for the fullest expression of evolutionary (i.e. human) capabilities at the weakest link in the ontogenic development of human needs. While there are many critical periods during our life, we believe the ties to natural environments to be most vital during youth. We have abundant evidence on our campuses and in our cities that the dislodgment of youth presents perhaps the most serious obstacle to successful adoption of more complex social structures. The dislodgment of man in an artificial environment will vary throughout his ontogeny. Even the small child or infant cannot be expected to be indifferent to changes in the gross characteristics of his community, nor within his own family. Young men and women accept many of the modern social conventions, but retain the highly questioning mind that once contributed to our survival by initiating new and better ways to hunt and

forage. By early middle age, man's physical and mental agility has changed and he becomes a stronger adherent to the social conventions that make his own society possible. During the rise of modern man on the high African plains, and continuing into modern primitive societies, each community was very much dependent on its young men. They contributed to hunting and community protection through their strength and agility, commodities for which there is declining demand in modern society. Survival in the primitive groups was to some degree dependent on the willingness of youth to innovate and take risks, and this has become a fixed adaptation, requiring outlets of expression.

Over 30 years ago, the great sociologist W. F. Ogburn suggested that society in the future would require "prolonging infancy to, say thirty or forty years or even longer". Is not our 20-year educational sequence a poorly-veiled attempt to do just that? From an evolutionary point of view will not this dislodgment of youth present the most serious obstacle to successful adoption of more complex social structures? We are compelled to acknowledge that the modern technological environment of youth has not compensated for the loss of the challenges of the hunt and the freedom of the veldt. The abundant disruptions on our campuses and in the cities indicate the need to plan environmental optima for this weakest link in the human need for expression of evolutionary capabilities.

Finally, through projects such as the International Biological Program, systems ecology is developing the capacity for considering all of the relationships and their interactions simultaneously. The notion of fully describing the optimum environment for any organism seems presumptuous. It requires measurement of every type of response, particularly behavioral responses, and their statement as a series of component equations. Synthesis in the form of a complex model permits mathematical examination of approaches to an optimum for the system as a whole. Until recently it seemed more reasonable to study such optimization for important resources such as fisheries, but the capability is available and relevant to the study of the environmental optimum of man, and its application must now be pursued vigorously.

The above five approaches to the study of human environment provide an objective base for investigating the environmental optimum for man. We cannot close this discussion, however, without pointing out that the final decision, both as to the choice of the optimum, and its implementation, is an ethical one. There is one optimum for the sick, and another for the well; there is one optimum for the maladjusted, and another for the well-adjusted. But in treating the problems of the poor and the minority groups, in our preoccupation with their immediate relief, we may continue to overlook the ways in which cultural demands of the modern, sub-optimum environment go far beyond the capacity of learned adaptations.

CONCLUSIONS

Considering our scientific effort to learn the functions and structure of the human body, and of the physical environment around us, the limited knowledge of the poor and the minority groups, in our preoccupation with their immediate cess of our scientific establishment we are faced with population densities and environmental contaminants that have left us no alternative but to undertake control of the environment itself. In this undertaking let us understand the need to choose a humane compromise—a balance between the evolutionary demands we cannot deny without great emotional and physical misery, and the fruits of an unbelievably varied civilization we are loathe to give up.

Yet are we even considering such a compromise? With rare exceptions are we not continuing to destroy much that remains of man's natural environment with little thought for the profit of the remote future? There continues to be a conviction that if we poison the water, we can always drink coffee. In the conflict between preservationists and industrialists (or agriculturalists) the latter have had it their way, standing as they do for "progress" and "modern living." While the balance between these conflicts is slowly changing, preservationists unfortunately continue to be regarded as sentimentalists rather than as realists.

Dobzhansky says that "the preponderance of cultural over biological evolution will continue to increase in the foreseeable future." We could not wish this to be otherwise; adaptation to the environment by culture is more rapid and efficient than biological adaptation. Culture evolves year by year and offers the only real flexibility. But social structures cannot continue indefinitely to become more complex and further removed from evolutionary forces. At some stage a compromise must be reached with man's innate evolutionary adaptability. Professor N. Tinbergen of Oxford University has most recently urged new com-

binations of scientific disciplines for investigating relationships between instinctive adaptations and cultural evolution.

The evidence shown of man's need for nature, particularly diversity, is sufficient to justify a determined effort by society to obtain answers to these and other questions that must now be asked. The techniques for studying the problems we describe are to be found in separate disciplines, but there is a substantial measure of willingness among scientists to undertake the new approaches. The first steps will be faltering and financial support will be slow in coming. We appeal to all levels of society to lend support to plans, however humble, which would lead to new contacts in research and to new types of training. While the limited steps in the direction of modern inter-disciplinary research are encouraging, there are obstacles in Congress, the research-supporting agencies, and the scientific community which can only be overcome by public insistence.

Now that buttercups are rare, at least symbolically, and springs sometimes silent, why study them? Have there not already been several generations for whom the fields and woods are nearly a closed book? We could encourage the book to close forever, and we might succeed, but in so doing we might fail disastrously. The desire to see and smell and know has not yet been suppressed and enthusiasm for natural history continues to bring vitality to millions. Let us recognize that we are a product of evolution, without apology for the close affinities with our primate forebears. We need only prepare consciously to make a compromise between our cultural and our genetic heritage by striking a balance of social structures with maintenance of environment. Most important, we must discover the intricate mechanisms of environmental influence on man. There is no other satisfactory approach in seeking an optimum environment.

[Telegram]

MADISON, WIS., April 15, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: We urge the strongest possible support for bill S. 1075 or one that will incorporate the related proposals by Senators Nelson and McGovern. A Council on Environmental Quality must be established in the Office of the President providing capabilities and opinions other than those already represented by Cabinet officers. The surveys authorize in title I represent congressional action to close one of the greatest gaps in modern science, the ability to identify and develop steps to correct degradations of environmental and biological systems before damage is irreparable.

There is a national urgency for early approval of this legislation. We ask that this statement be read at the hearing. Copies are being sent to Senators Nelson and Proxmire and President Nixon.

ORIE L. LOUCKS.
HUGH H. ILTIS.

THE UNIVERSITY OF WISCONSIN,
Madison, Wis., April 16, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: Enclosed is a brief expanding on comments I sent by telegram to your committee hearings on Wednesday on Bill S. 1075. It cites several examples of why a national Council of Environmental Quality, and ecological surveys of national scope are now a matter of great urgency.

I ask that this brief be included in the published record of the hearings.

Sincerely yours,

ORIE L. LOUCKS,
Professor of Botany.

A BRIEF IN SUPPORT OF BILLS S. 1075 AND S. 1752

This brief is to provide examples from recent ecological studies illustrating a need for the strongest support for Bill S. 1075 or one that will incorporate the related proposals by Senators Nelson and McGovern. A Council on Environmental Quality should be established in the office of the President providing capabilities and opinions other than those already represented by cabinet officers.

The surveys authorized in Title I of these bills represent congressional action to close one of the greatest gaps in modern science, the ability to identify and develop steps to correct degradations of environmental and biological systems before damage is irreparable.

At one time, the area of ecology was primarily the study of natural relationships between organisms and environment, or at most, study of the responses of organisms to man's once frail attempts to modify the species-environment relationship.

Today the primary concern of ecology has become a defensive one—the study of unnatural relationships, imbalances imposed by man's attempt to wring more from our environment and our resources than they can bear without substantial degradation. Thus ecology is becoming the study of the impact of technology, or in its bleakest terms the cataloguing of the degradation in natural systems.

The record of environmental crises being reported to this committee and to the Congress in many forms has been identified as a product of population buildup and modern technology. It brings us abruptly to one hard fact: that an end to the once bountiful resources of the world is now in sight, and that the limiting thresholds have not come as quickly in food, fiber, or fuels as once expected, but rather in air and water.

Water has always been limiting in some areas, but now continent-wide management or redistribution from Canada is more and more an economic prospect (if not a political one). With respect to air, the lead poisoning of children in the core areas of the cities as a result of the concentration of automotive exhaust in urban areas, the periodic regional pollution alerts on the east and west coasts of the United States, and the Iodine¹³¹ leaking from nuclear power stations make continent-wide management of atmospheric contaminants a matter of urgency in both national and international science councils.

These contaminants of air and water have already brought about significant regional eliminations of native plant species, the primary producers of food and fiber, and the converters of CO₂ to essential O₂. The economic value of the decrease in forest growth in Pennsylvania (due to release of SO₂ by coal-burning electric power stations) and through the mountains of southern California, is only now being recognized as a significant economic impact on these regions. The absence of adequate provision for the monitoring of such degradation is a congressional failure of national consequence.

It is the advance in technology, combined with the exponential growth in population, rather than major advances in natural science, that leads us to recognize that we live in a very small world indeed. I think we should view it as an experimental planet, hung on a string, where someone is trying to test the limits of the system of air, water, land, and life. But the experimenters are like small boys tormenting a caged animal. No one can predict what the response to the torture will be, and there is apparently on one able to convince them it is a dangerous game. Torture, of whatever sort, tends to result ultimately in the death of the victim. I say to this committee that the challenge in ecology and conservation in the next decade is to assemble the evidence and lay down rules of husbandry to the tormentors by whatever means possible, and both a Council of Environmental Quality and a national program of ecological studies is essential to this goal.

Let me devote the rest of my brief to examples of the techniques available to make this possible, and the role that national conservation councils must play to accomplish it. Some will indicate how it can be done, others only the first steps to what must be done.

THE DDT RECORD AS AN EXAMPLE

One of the most remarkable examples of the results from intensive ecological studies is the recent progress toward stopping use of DDT and other hard pesticides. This has come most recently through an action in court brought by the Environmental Defense Fund. Barry Commoner, the molecular biologist-turned-ecologist at Washington University in St. Louis, has stated that every modification of our environment has some secondary impact, whether a ripple or a wave, that radiates to unknown distances and unknown consequences. Our two decades of controlling insect pests with DDT has produced a wave whose impact now threatens to be greater than any of the upsets it was designed to correct. Incredibly, there has been no forum for objective, judicial examination of the infringements on innocent individuals resulting from its wave of upset. The courts would defer to the state departments of agriculture, who simply said that

DDT was approved for registration as a pesticide in the 1940's, and it would not be reconsidered. A few people appear to sit as prosecutor, judge, and jury.

The historical background to this confrontation is as follows. We were distressed in the late 1940's to see the rapid movement of DDT from the forest or lawn litter, to earthworms, and then to birds, but we were prepared to accept these modest upsets for the increased crop production, forest protection, and physical comfort afforded by DDT. It was nearly 15 years before the apparent disappearance of DDT from a treated area was demonstrated to be due, *not* to the breakdown of DDT, but due to its transport into the atmosphere attached to evaporating water. The amounts coming down in rainfall around the world were thought to be negligible, and in any case degradable. But DDT is unlike the radioactive fallout which we felt compelled to control. Part of it goes into plant or animal life, and the remainder back into the atmosphere. It simply keeps accumulating on the land, in the air, and in the water until every lake and stream and every organism of our small world carries its share.

Still, the decline of some of our top-carnivore bird species could not be identified clearly as a product of DDT accumulation in their bodies. At times they seemed to tolerate very high levels of DDT, and no mechanism is known by which direct mortality could be produced. Only in the last two years have the mechanisms of population decline become identified, and they are somewhat different for each group of animals affected. One is the upset of calcium metabolism in the liver, which in turn controls eggshell thickness and therefore the success of the hatch. Similar metabolic upsets are now a matter of record in the reproduction of fish. Particularly important has been the death of new-born mink or mink ranches fed on fish with high DDT levels from Lake Michigan.

Further evidence introduced at the DDT hearings in Madison now show the likelihood that DDT concentrations of even $\frac{1}{4}$ the levels now present in man, which are on the order of 10 ppm, can have a significant impact on the hormonal balances in man. In addition, and perhaps of even more consequence, is the fact that DDT and its breakdown products act to stimulate breakdown in some of our modern wonder drugs in the body before the drugs have an opportunity to act. The so-called proof that DDT will not kill a man even when taken in substantial quantities, is not at all reassuring to anyone who listened to this testimony in Madison.

However, the most significant aspect of the hearings to determine whether DDT constitutes a pollutant in Wisconsin waters has been the unusual breadth of scientific disciplines needed to complete the story of the movement and impact of DDT. The hearings began with early testimony by a botanist on the diversity of plant life, and the dependency of many species on insect pollinators. It continued with my contribution on the continuous movement of water out of the soil into the atmosphere and back to the land or open water body at points far removed from any DDT applications. The next witness demonstrated that DDT, wherever it has been applied, moves into the atmosphere with the water as it evaporates.

The world-wide transport mechanisms that have carried DDT to both the Arctic and the Antarctic poles are now known, and are an essential part of the story against DDT.

The other witnesses included fishery biology specialists, ornithologists, and a range of chemists, molecular biologists (including a colleague of the Nobel Prize-winning James Watson at Harvard University), and a biochemical pharmacologist. To my knowledge, never before has so wide a range of scientific capability been assembled on any single conservation issue. But the story could not have been told without all of these participants. It is an illustration of the breadth of specialization, far beyond the interests and capability of any ecologist, that we must assemble in most of the confrontations between adverse technological impact and biological productivity.

AN EXAMPLE OF OUR INABILITY TO FIND OUT

I would like to cite another example, but one where the answer is less encouraging. This concerns the greatly increased use of herbicides, such as atrazine, which is widely used for control of quack-grass in corn crops. We are using this advance in technology for important economic benefits, and with the same assurances as for DDT—that there are no lasting detrimental effects on the environment.

Yet last year we observed the abrupt mortality of nearly 4,000 acres of marsh cattail centered in a corn-growing area of Wisconsin. No other cause of mortality,

such as water level or oxygen supply, could be offered to explain the mortality with any conviction. But if herbicides had been present during the previous season, they would indeed have been degraded by the time we saw the effect.

Last autumn we had indications of new mortality in other marshlands. Was there anyone that could test for the presence of herbicides? The State Department of Natural Resources said that this would be very technical and that the University would have to do it. The University staff in this area said that it would take a special appropriation, and besides, it would take up to two years to develop suitable techniques for sensing the very low concentrations of herbicides involved. Thus, without proof that there is a herbicide problem we could not justify a budget for the monitoring of materials that are capable of damaging much of our wetland vegetation. Without a budget, we cannot get even preliminary evidence for or against the potential hazard of herbicides in wetland waters. What more urgent example could be cited for the need of federal legislation to assure studies for the protection of national resources from modern technology?

ORIE L. LOUCKS,
Professor of Botany.

THE NATIONAL ASSOCIATION OF SOIL AND
WATER CONSERVATION DISTRICTS,
Washington, D.C., April 15, 1969.

Hon. HENRY M. JACKSON,
*Old Senate Office Building,
Washington, D.C.*

DEAR SENATOR JACKSON: In the National Association of Soil and Water Conservation Districts we are extremely pleased that you have scheduled a hearing on S. 237, S. 1075, and S. 1752, which relate to policy and implementation of efforts in behalf of the nation's resources and environment.

I am attaching a brief statement by Charles M. Ladd, Chairman of our Committee on Natural Environment, pertaining to the bills under consideration. We would appreciate it very much if this statement could be included in the record of the hearing on the aforementioned bills.

I also want to take this opportunity to express our high regard for your personal interest and activity in moving ahead with this kind of legislation.

Sincerely,

GORDON K. ZIMMERMAN,
Executive Secretary.

[Enclosure]

STATEMENT OF CHARLES M. LADD, DURHAM, NORTH CAROLINA, CHAIRMAN, COMMITTEE ON NATURAL ENVIRONMENT NATIONAL ASSOCIATION OF SOIL AND WATER CONSERVATION DISTRICTS

Among the major problems confronting the country, very few warrant a higher priority for national attention than those pertaining to our natural resources and the environment in which all of us live. Pressures on the quality and quantity of the resources which sustain us are multiplying. At the same time, because we have failed to anticipate and deal with the by-products of national growth on every side, the quality of our environment is deteriorating at a critical rate.

Resource and environmental problems are part and parcel of each other. They cannot be separated and, in our judgment, should be dealt with together.

The bills being considered by the Committee are all constructive. In many respects they are similar. Each in its own way proposes to move the nation toward more responsible action in behalf of natural resources and a better environment. We sincerely commend the Senators who introduced these measures.

There is a pressing need for legislation of this kind. Every responsible forecast of our national future is a forecast of growth. We are faced with an unprecedented growth in population. We are counting on a continuing and substantial growth for our economy as a whole.

To support this growth, there is an assumption the country will have enough resources, in terms of both quantity and quality, to meet our oncoming needs. As of now, this is an ill-founded assumption. As of now, there are no sound reasons for believing our future requirements for land, water and the related natural resources will be adequately met—or that we will conduct ourselves

and use our resources in ways that will sustain an environment for the American people that is at once wholesome, invigorating, and civilized.

As a nation we are not yet taking adequate, deliberate actions to accomplish these purposes.

That is why the bills before the Committee are so important. S. 237 and S. 1752 would establish much-needed national policy pertaining to resources and the environment. All three bills would elevate consideration of resources and the environment in the Executive Branch. S. 237 and S. 1752 would also provide specifically for increased and improved consideration of these matters within the Congress.

It is not our purpose in this statement to comment in detail on all the provisions, similarities, and differences in the three measures. Our hope is that the authors of these bills will, in due time, come to a meeting of the minds and join in a new, single bill incorporating the best of the three which are the basis of the current hearing.

For such value as they may have in this direction, we offer the following observations:

In our judgment, the quantity of renewable natural resources is a key factor, along with quality, in all considerations of resources and environment.

An annual Resources and Environmental Report by the President to the Congress is a matter of high importance. It would help direct the attention of the people, at least once a year, to the state of their resources and environment. Our resource wealth is so fundamental, and the quality of our environment is so vital, that we need to utilize the full prestige of the Office of the President to help improve the resource understanding of all Americans.

Little will be accomplished in behalf of the nation's resources and environment without the leadership and active participation of the Congress. We believe it is essential that select committees of the Senate and House of Representatives, along the lines set forth in S. 237, be established to insure the thorough and joint consideration of resource and environmental matters by the leaders of the several permanent committees of the Congress having responsibilities in these fields.

We strongly support the establishment of a Council of Resource and Environmental Advisors to the President. Resource and environmental issues are so pervasive in our society and economy that an independent Council reporting directly to the President is imperative if we are to have effective, over-all coordination of programs and positive leadership in relating our resource and environmental efforts to the nation's oncoming needs.

We specifically oppose the designation of the Department of the Interior, or any other single Department, as the focal point within the Executive Branch for resource and environmental responsibility. Several Departments have basic responsibilities affecting the protection and development of resources, as well as the condition of our environment. The Departments of Health, Education, and Welfare; Housing and Urban Development; Transportation; Agriculture; Commerce; and Defense all have such responsibilities that are on a par, in their respective fields, with those of the Department of the Interior. Experience over many years has demonstrated that the assignment of Executive-wide powers or responsibilities to any one Department, and calling for the compliance of several other Departments, produces a built-in and almost automatic resistance. There is no real need to risk this kind of problem and we should not invite it. Better alternatives are available.

Finally, we want to say that the National Association of Soil and Water Conservation Districts, representing more than 3,000 individual Districts and their 50 state associations, with 18,000 local governing officials and approximately two million cooperating landowners and operators, has an active and long-standing concern for the purposes of the legislation now being considered.

The dimensions of the problem, and the need for leadership can scarcely be exaggerated. We rely on Senators Jackson, McGovern, and Nelson as the authors of these three bills, to point the way.

THE IZAAK WALTON LEAGUE OF AMERICA,
Glenview, Ill., April 28, 1969.

HON. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs, Senate Office Building,
Washington, D.C.*

DEAR SENATOR JACKSON: The Izaak Walton League of America is pleased that your Committee is now considering S. 1075 and other bills to establish a National Council on the Environment. The League has felt for some time that such legislation is badly needed and we wholeheartedly support its intent.

Undoubtedly your Committee is now reviewing the numerous suggestions which have been made, and while all of the proposals we have examined have constructive merits, we believe the following should be considered as well.

As you recall, the League was among those who were instrumental in establishing the highly successful Outdoor Recreation Resources Review Commission in 1958 of which you were a distinguished member. For the first time in our history that Commission was able to bring together the broadest possible consideration of our total national outdoor recreation needs. The Commission consisted of 8 Congressional members, 4 appointed by the Vice President and by the Speaker of the House respectively, and of 7 members appointed by the President. This shared representation made it possible for ORRRC to obtain information, ideas and recommendations from a wide variety of interested private and governmental agencies on a federal, state and local level. As a result, the Commission's work was considered to be the most comprehensive effort ever made in its field, and many of its recommendations have been implemented by outdoor recreation interests nationwide.

We believe the same type of comprehensive effort will have to be made in coming to grips with the still larger environmental problems. It occurs to us that the ORRRC formula may serve as effectively if applied to a National Commission on the Environment. Such a Commission would be able to deal with national policy in its broadest sense, independent of but responsible to Congress and the President. Further, the Commission would serve as a central agency for focusing scientific and citizen interest, a need which we feel acutely in our day to day activities.

In conjunction with such a Commission, we see a concurrent need for an Environmental Council at the operating level of government. The participants should be the Secretaries of the Departments. At the present time, the Secretaries meet to consider our national water supply needs through the Water Resources Council, and in this limited area they have coordinated their respective programs well. A similarly structured Environmental Council would permit them to consider a broader range of concerns as they relate to specific programs and projects.

We believe this two step approach may have a fundamental advantage not to be had otherwise. While the Commission and the Council would centralize environmental concerns in the formulation of national policy and its implementation, they would not be totally dependent on any single branch of government or on any particular agency. Further, such an approach would leave Congress, the White House and independent agencies free to institute other desirable measures in the context of their specific responsibilities. For example, while the President is now recommending an Environmental Quality Council to advise *him*, several Congressional Committees are delegating similar responsibilities to their own subcommittees. Further, some administrative agencies, such as the Corps of Engineers and the Federal Highway Administration have already instituted offices of environmental concerns within their own departments. All of these efforts are highly desirable and should be emulated by all agencies of government which have the responsibility for programs that significantly affect the total environment. None, however, provides a suitably authoritative and centrally accessible agency for consideration of our total national environmental needs. A National Commission and an Environmental Council at the operating level of government would fill his need.

We know that you and your Committee share our deep concern over the increasing complexity of the modern world and its impact on our lives. We feel strongly that it will take the broadest possible participation at all levels of government to come to grips with it.

Thank you for your consideration.

Sincerely,

J. W. PENFOLD,
Conservation Director.

SPORT FISHING INSTITUTE,
Washington, D.C., March 14, 1969.

HON. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, U.S. Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: The Sport Fishing Institute is interested in your bill S. 1075, concerned with authorizing the Secretary of Interior "to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality and to establish a Council on Environmental Quality. We feel that passage of this measure would contribute significantly to the Nation's understanding and appreciation of America's natural resources that are so vitally in need of careful future husbandry.

Fisheries scientists, aquatic ecologist, and related conservation interests are vitally concerned with the aquatic resources of America and feel very strongly that there should be a broad authority adequate to embrace impact ecological studies of such resources even though defined research projects of concern may have another purpose. In other words, we would favor the authorization granted by this legislation to conduct research on related subjects that might not be covered by mission-oriented studies.

This would enlarge the public's "library" of knowledge so that there would be an improved capacity for estimation of the broader environmental—say, with respect to some innocently-affected community of organisms—consequences of a proposed large-scale construction project, resource management activity, or other environmental alterations. If this knowledge could become available to the construction (or other) agency at the outset of a proposed program, careless or unwitting upset of delicate ecological systems which might completely destroy a particularly valuable natural resource, would be far less likely.

Hopefully, then, man and nature would be able, eventually to live in productive harmony.

A program of ecological research would be of material assistance in advancing our Nation's efforts in the challenging task of our arresting, if not reversing, the unacceptable trend toward further deterioration of the national environment. It would also serve, eventually to elucidate scientifically the conditions on which continued successful and satisfying human existence on this earth, particularly in the United States, must be predicated.

It will be appreciated if you will include these remarks favoring passage of S. 1075, in your record of hearings, when held. In our view your proposal would help promote a concept of research that is badly needed *now*, while there is still time available before all of the fish and wildlife become endangered species.

Thank you.

Sincerely,

PHILIP A. DOUGLAS,
Executive Secretary.

STATEMENT OF ANTHONY WAYNE SMITH, PRESIDENT AND GENERAL COUNSEL,
NATIONAL PARKS ASSOCIATION

My name is Anthony Wayne Smith. I am President and General Counsel of the National Parks Association, 1701 Eighteenth Street, N.W., Washington, D.C. I appreciate the invitation to testify on the above subject.

The National Parks Association is the leading national conservation organization having primary responsibility for helping to protect the National Park System, but having a concern also for other comparable natural areas and being committed to the protection of the entire natural environment for human habitation.

The Association has a membership of about 42,000 persons who receive the monthly National Parks Magazine. It was founded in 1919 at the behest of Stephen T. Mather, the first Director of the National Park Service, and is celebrating its 50th anniversary this year.

The establishment of a Council of Environmental and Population Advisors, responsible directly to the President of the United States, would be one of the most important contributions the Congress could possibly make to the welfare of the American people.

We have a great many agencies of the Government which are involved in one way or another in the management of natural resources for the operation of programs affecting the life environment of the American people. At the present time many of these agencies are working at cross-purposes.

It is quite important that a top level institution be established with power to bring their operations into a semblance of harmony. It is also important that this kind of harmonization of programs proceed in the perspective of a set of goals formulated by policy-minded persons not involved in the pulling and tugging of the operating agencies and their respective clienteles.

Just for example, practically all of the organizations in the United States concerned with resources and the environment have banded together to protest to the Secretary of Transportation against the construction of a huge jetport in the Everglades country in Florida. This jetport would probably destroy Everglades National Park, to which the State of Florida and the United States have committed large funds in the past and in which the American people have a great interest, and would result in serious environmental damage in terms of water pollution, air pollution, pollution by insecticides and fertilizers, noise pollution, and comparable destruction. On the one hand we have the Department of the Interior, the National Park Service, and other agencies concerned with the preservation of the life environment, and on the other hand, working against them, agencies like the Federal Aviation Administration and the Federal Transportation Administration, pushing for construction.

This is just one example. In the Potomac River Basin we have the Army Engineers pressing for the construction of a large number of big dams, ostensibly to dilute pollution and provide water; and hopefully on the other hand the Federal Water Pollution Control Administration working for the prevention of pollution, which would make dilution unnecessary and would provide pure water without much storage. A great coalition of farm, labor, conservation, and citizen organizations arose some years ago to protect the Potomac from the Army-type dams, and great efforts are being expended throughout the Basin by American citizens, fighting their own Government bureaus. We need to get the question settled as to what we really want to do with our river basins: build useless pyramids? Or protect a decent life environment for human habitation?

It has been suggested that some kind of Presidential-level agency can be established by Executive Order which would serve the purpose of the coordination which everyone now agrees is necessary. I have endorsed this approach at times in the past as one possible solution, but would now strongly urge that a Council of Environmental Advisors be established by Statute, comparable to the Council of Economic Advisors, which has certainly proved itself to be a valuable institution.

We have had a President's Council on Recreation and Natural Beauty in the Executive Offices of the President for several years. It has not worked well in practice. It was established by Executive Order and consists of the Secretaries of the various Departments and Agencies thought to be concerned with environment and natural resources. The difficulty is that the Secretaries and heads of these agencies never attend meetings themselves; they send second or third string people without authority to act, and the Council has normally been paralyzed. The chairmanship of the Council has rotated and has most recently been vested in the Vice President of the United States; but staff procedures within the office of the Vice President and Bureau of Outdoor Recreation, assigned by Executive Order to the work of the Council, have prevented effective action. I can see no difference between these institutions, as they presently exist, and the proposal to establish a new inter-departmental coordinating group by Executive action, even though chaired by the President himself (he would probably depute a subordinate), or by the Vice President, as has been the case in the past. The situation calls for something much stronger than this.

Up until now the Bureau of Outdoor Recreation has attempted to function in a staff capacity to the President's Council on Recreation and Natural Beauty. The organic law of the Bureau of Outdoor Recreation gives it the power to recommend coordinating policies to the various Federal departments and bureaus. The Executive Order makes it the staff agency to the President's Council. In practice the President's Council has agreed upon seven inter-agency policy statements on matters involving parks, recreation, etc. These statements have been implemented by signed inter-agency agreements. Supposedly they could be enforced by a mere word from the President or Vice President, but they have not been effectively enforced. I have urged for several years that this machinery was available and that it should be used; but it now seems clear that it will not be used and for that reason I think that statutory institutions are needed.

Several years ago Congress established a Water Resources Council consisting of the heads of the departments and agencies having one or another kind of responsibility for water and water-related resources management, with a separate

staff and director. The Council has engaged itself in coordinating the preparation of water-related resources plans on a river basin basis. A number of regional commissions have been created, and in some instances interstate compacts have been suggested. There is no indication that any adequate retarding operation has been developed to protect the people in our river basins against over-pretentious programs which will do more harm than good. It is possible that a measure of coordination has been achieved, bringing greater efficiency in pushing programs which ought to be stopped.

We have also seen the recent establishment of a National Water Commission comprised of persons not presently associated with the resources and construction operating agencies. This is a relatively temporary group; its members serving without security or indications of continuity, have inadequate staff facilities and authority. We may not hear very much from it; something much stronger is needed.

The new proposals to re-cast the inter-departmental administrative structure by Executive Order will be no more effective than the old arrangements. What is needed, in my judgment, are the following:

1. A President's Council of Environmental and Population Advisors comparable to the President's Council of Economic Advisors, should be created by law.

2. The Council should consist of three or five persons nominated by the president and confirmed by the Senate of the United States, who should have tenure for a substantial period of years to make certain that they are not merely political appointees.

3. The law should specify that the members of the Council should be persons with policy minds, capable of formulating long range goals for environmental management in the United States and having no connections, whether active or as retired persons, with any operating agency.

4. The members of the Council should be well paid and provided with all the fringe benefits, particularly security, necessary to attract top talent.

5. The Council should have its own paid staff, and the authorization should not be limited to any specific amount, but should be capable of providing appropriations in whatever measure may be deemed necessary from time to time.

6. The Council should have authority to enter a stop order in the name of the President of the United States against any construction project or other program of the Federal Government which it deems may have an adverse effect on any aspect of the life environment of the American people, pending full review by the Council.

This stop-order authority is of extreme importance. We have had coordinating agencies which served merely to expedite the environmentally destructive activities of the existing agencies, to move them ahead ever more rapidly, to eliminate conflict among them, and in the end to make destruction more efficient.

The technological capabilities of modern man have in many instances outrun his ability to plan for the use of these capacities; not construction, but destruction has been the result; the need is not for acceleration, but for delay sufficient to inform us about both destinations and tendencies. In other words, we need to slow up before we destroy ourselves. A stop-order authority in the hands of the President of the United States on recommendation of the proposed Council of Environmental and Population Advisors is an imperative necessity.

7. The problem of environmental protection has two facets: first, perhaps good planning in terms of purposes, coupled with a braking operation to make sure that ecological and sociological complexes are not seriously disrupted by so-called progress, but secondly, the question of congestion, overcrowding, overpopulation. By almost any test you can apply, atmospheric pollution, water pollution, poisoning by pesticides and even fertilizers, noise disturbance, traffic congestion, and a multitude of others, this nation is already over-populated. Unless we can reduce our rate of reproduction to an average of 2.2 children per woman in the future, our population will continue to grow and congestion will choke our standard of living. The problems of protecting our life environment which lie ahead of us will become overwhelming unless we can stabilize (and hopefully reduce) our population. No matter what efforts are made by private groups along educational and moral lines, vigorous action by Government in terms of education will be needed if we are to cope with this problem in time. Protection of the environment cannot be separated from the problem of population; hence, the Council of Environmental and Population Advisors must have express authority to make recommendations to the President on demographic issues. This necessity has not been considered, so far as I am aware, in any of

the legislation thus far presented; but such legislation will be a massive futility unless this additional consideration is introduced. By whatever name, the agency under consideration should be a President's Council of Environmental and Population Advisors; there should be specific provision in the law that at least a minority of the members of the Council have professional qualifications in the demographic and population fields.

The conservation and population organizations in this country know very well that they are fighting with their backs to the wall at present. Governmental agencies are working at cross-purposes, but sometimes this is good because it blocks action in the wrong direction. Fundamentally the trouble is that the agencies are working without properly formulated social goals; many of the results are destructive, and the private, educational and scientific institutions which are wrestling with these difficulties find themselves putting out one fire after another.

This Committee could render no greater service to the American people, and indeed to the people of the world, who will follow America's example, than to establish by law, with adequate funds and staff, a Council of Environmental and Population Advisors, serving the President of the United States, at the earliest possible opportunity.

STATEMENT OF EDWIN M. WHEELER, PRESIDENT, NATIONAL PLANT FOOD INSTITUTE

The National Plant Food Institute appreciates the privilege of presenting a statement to the Committee on Interior and Insular Affairs regarding the bill proposed by Chairman Jackson and referred to this Committee on February 18, 1969. The National Plant Food Institute is a trade association composed of more than 100 fertilizer manufacturers and sales organizations across the nation. It is the principal spokesman for the fertilizer industry, one of the major industries helping provide food, fiber, and shelter for the peoples, not only of this country, but in much of the world.

Regarding the proposals in S. 1075, we feel that while the intent is commendable, the scope falls far short of being able to accomplish the multiple tasks at hand.

Analysis of S. 1075 convinces us that its greatest single weakness, as well as that of legislation already enacted into law with respect to pollution, is omission of the United States Department of Agriculture.

As every committee member is aware, most of the non-urban land resource, dollar-wise, in this country is devoted to agriculture in one form or another, and of the four billion tons of sediment lost annually to streams and lakes, one half comes from the agricultural sector.

The Secretary of Agriculture is charged with the responsibility of conserving soil and water.

Presently, the Department of Agriculture is undertaking research on the disposal of livestock waste of which there are more than 1.7 billion tons every year, and the quantity is increasing. Plans for this research and for research in other segments of agriculturally related pollution are set forth in the recent report by the Secretary of Agriculture and the Office of Science and Technology entitled: A Report to the President, Control of Agriculture-Related Pollution.

Implementation of this report should receive serious consideration by the Congress because we are firmly convinced that it will be futile for any of the various agencies of the government to attempt to solve solid waste disposal problems without the leadership and direction of the United States Department of Agriculture.

Indeed, if ways and means of controlling loss of sediment and the valuable nutrients contained in this sediment are to be obtained at the least possible cost to the taxpayers, the U.S. Department of Agriculture and the land-grant universities must not be overlooked in the basic legislation now under consideration.

Should the agriculture sector be overlooked in new legislation, it is our firm belief that taxpayers' money will continue to go down the drain year after year with the same problems still remaining to be answered, and with no hopes of solving future problems to be faced by most segments of agriculture as crop and livestock production systems become more and more intensive.

The National Plant Food Institute believes, above all, that both intensive and extensive field studies must be initiated immediately if answers are to be obtained in time to avoid undue alarm of the lay public by some of the so-called

experts among us who daily are at work attempting to justify huge research grants to build up their own investigational laboratories and programs.

Title II of this Act, intended to create in the Executive Office of the President, a Council on Environmental Quality likewise makes no mention of agriculture. It would seem to us that the agricultural sector of our economy, including production, processing, transportation, and distribution of food, fiber, livestock and livestock products, and employing more than 40 per cent of our people, contributing one fourth of our gross national product, and with the United States Department of Agriculture having prior congressionally assigned responsibility for protecting our agricultural lands and national forests, is too important to be overlooked.

We feel that any new legislation to upgrade the quality of our environment should specifically include the Department of Agriculture and that any new Environment Council should include the Secretary of Agriculture, or his designee. (Actually, we feel that such a Council should not be established by law but, instead, should be appointed by the President.)

Again, may I say that we appreciate having this statement made a part of the official record.

STATEMENT BY ANDREW J. BIEMILLER, DIRECTOR, DEPARTMENT OF LEGISLATION,
AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

Mr. Chairman: My name is Andrew J. Biemiller. I am Director of the Department of Legislation, American Federation of Labor and Congress of Industrial Organizations. I am also Chairman of the AFL-CIO Staff Committee on Atomic Energy and Natural Resources.

On behalf of organized labor I wish to convey its endorsement of S. 1075 with amendments. This legislation—The National Environmental Policy Act of 1969—would create a statutory Board of Environmental Quality Advisers, establish a national environmental policy and authorize the necessary studies, research and surveys to carry out the purposes of the Act.

For more than a decade, organized labor has been actively concerned with the deteriorating quality of man's surroundings in this Nation. We have also increasingly realized that this deterioration has achieved global proportions. The 20th Century and in particular, the period of the last two decades, has witnessed enormous technological changes, coupled with more and more people, the crowding of these people into cities, major revolutions in transportation, resources use, all producing vast and increasing demands on energy, minerals, raw materials, water and land.

These tremendous changes have brought about increases in material standards of living and the potential release of mankind from the fetters of his natural environment. But at the same time, the forces that have been released by these processes have gotten almost out of control. They have become so enormous and so impersonal that they are impacting man's physical habitat and his social organization as well.

The crucial task that this Nation and the World now faces, is to find ways of harmonizing the polarized extremes of the natural system of evolution with the deliberate manipulation of natural evolutionary processes by man. Human freedom and human well being depend on how well this challenge is met.

In our opinion, S. 1075 is a necessary first step toward an eventual solution of this Nation's environmental crisis. We endorse the formulation of a national environmental policy as contained in Title I of the bill and the establishment of a Board of Environmental Quality Advisers, who will have the responsibility of attempting to achieve a coherent interpretation and administration of federal laws and programs in accordance with the policies of this Act. In so doing, the responsibilities of the Board will be particularly delicate as it will be necessary to achieve a sound and sane balance between the need to utilize resources to maintain economic growth and stability and to guard against their misuse in such fashions as will produce adverse environmental effects, some of which could be irreversible.

It will also be necessary to develop alternatives and to resolve conflicts of uses of various kinds of resources.

The AFL-CIO was of course pleased by the recent action of the President to create a cabinet level Environmental Quality Council, together with a Citizens Advisory Committee on Environmental Quality. However, we regard this in no way a substitute for the statutory program embodied in S. 1075. It is hardly possible that the cabinet level council can, because of the press of other duties, devote adequate time to this enormously complex problem. Moreover, our experience with advisory committees brings us to conclude that they are no substitute for responsible decision making by a government agency authorized and directed to carry out congressional policies.

We think it should be made plain that the successful prosecution of the program contained in S. 1075 depends in large measure on mutual understanding and helpful advice and assistance from non-governmental organizations and individuals which have important contributions to make. There is nothing in this legislation as we understand it, which would preclude such intercommunications between the Board of Environmental Quality Advisers and the scientific communities, labor, management, conservation and other interested organizations.

As I said in the beginning, it is our belief that S. 1075 is a necessary first step to bring order out of chaos on the environmental front in this Nation, to take meaningful steps toward international cooperation to reduce global insults to the air, water, land and the cities of mankind.

(Additional information, "Man and His Environment," furnished by the AFL-CIO, is printed as exhibit 3 starting on page 208.)

Senator ANDERSON. Thank you all very much. This is a fine meeting we have had. We are glad to have had you.

The hearing is adjourned.

(Whereupon, at 4:55 p.m., the hearing was adjourned.)

APPENDIX 1

Summary of Findings and Recommendations, Resources and Man,
Prepared by the Committee on Resources and Man, National Academy
of Sciences-National Research Council. (Entire report to be published
by W. H. Freeman and Company.)

COMMITTEE ON RESOURCES AND MAN

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PREFACE

No one can predict the future in detail. Past efforts to do so seem naive in retrospect. Nevertheless, we can foresee the probable consequences of some of our actions or failures to take action, and we owe it to those who will follow to look ahead as far as we can and over the broadest scope possible. The goal should be to avert the thoughtless foreclosure of options.

The problems that face mankind, however, are so numerous and so complex that it is easy to take the position that all we can or should do is to work at such clearly researchable components as fall within our individual competence. Yet the larger questions will go forever unresolved if we decline to attack them merely because they appear hazy and insoluble to us in our lifetimes. We must soften them up by constant pressure so that they will yield the more readily to better-informed minds and more-advanced means in the future. It was in this spirit that the Committee on Resources and Man approached its task.

Peace, population, pollution, and resources are the central interlocking variables whose unsatisfactory management threatens our options. Views about this threat tend to be pessimistic or optimistic, depending on the extent to which they focus on the magnitude and ecological complexity of the problems or on the impressive technological capabilities with which we confront them. In attempting better to understand the reasons for this polarization of views about resources, and to define its task, the Committee on Resources and Man canvassed a range of judgments and supporting evidence. During four three-day conferences with informed persons representing a diversity of opinion, and in our discussions as a committee and with individuals, we sought a balanced consideration of varying views rather than their reconciliation. The problems we have attempted to assess will be reduced neither by euphoria nor by gloom, but only by

realistic formulation and action. The adequacy and the quality of resources, both in the near future and in the decades and generations ahead, are confining forces of major and increasing magnitude, and many of the variables that affect them are insufficiently known. Unremitting, imaginative, determined, and large-scale effort will be necessary to deal with the consequences of these facts.

Although there is disagreement among informed persons as to the magnitude and specifics of our resource problems, as well as about the best solutions to them, there is no disagreement within our Committee either as to their urgency or as to their long-range aspects. Complacency, delay, and short-range views jeopardize our chances of finding satisfactory solutions. Serious dangers beset us already, and greater ones loom in the future. People are in trouble, even around the North Atlantic—in large part because there are too many of them. Hardship can be reduced and its increase averted only by persistent efforts involving all sectors of society. Flexible plans of long range and large scope are needed to assure the sufficiency and integrity of our environment. They must be based on informed foresight and designed to preserve a variety of choices for the future.

Precipitous haste, however, would be almost as bad as undue delay. Thus, instead of comprehensive plans, what we propose here are some steps toward their early evolution. We hope, by viewing selected critical aspects of the resource picture in an ecological context, to make clear the need for more comprehensive evaluation and wiser use of our resources. In stating this need, we recognize that without peace and population control even the most detailed knowledge and otherwise wisest management of resources are to no avail, and that a study of resources that bypasses questions of ample pure air and water is incomplete. The latter questions, however, are now coming increasingly into the public awareness. We wish to focus comparable attention on resources other than air and water as equally vital components of modern and future industrial societies.

The intent of our report is evocative. We mean it to be a brief but reasonably balanced introduction to the problem of man's relation to his resources, concentrating on issues central to a rational perception of the problem rather than on detailed estimates and projections. If it expresses judgments at odds with those of others, that is part of our contribution to the continuing discussion. The important thing is that the discussion continue, and that it give rise to policy and to thoughtful action or deliberate inaction.

If the future falls short of our hopes for it, let it be in consequence of imperfect judgment rather than none.

SUMMARY AND RECOMMENDATIONS

"There are three imperatives: to reduce war to a minimum; to stabilize human population; and to prevent the progressive destruction of the earth's irreplaceable resources."—Sir Macfarlane Burnet, 1966.¹

SUMMARY

This report is about problems that confront man in seeking a durable accommodation with his natural resources. Concepts of resources, to be sure, change from time to time and place to place, but the general notion is always of something necessary or useful, like food, clean air and water, and materials that skilled hands and discerning minds can turn to the improvement of the human lot. Various aspects of man's relation to his resources are considered in the chapters that follow; here we state the main themes of our study.

The central question is: can man approach a kind of dynamic equilibrium with his environment so as to avert destructive imbalances? Ultimately this question involves the entire globe and the distant future. We have chosen, however, to concentrate here on material resources other than air and water, and on North America—although with global cognizance and in ecological context. As for time scale, we have tried to look well beyond the year 2000, but to keep the shorter term in view. In order to focus on the issues that seem to us to block a general appreciation of the importance and gravity of resource problems, and in the interests of brevity, we have also left out much detail that might have been included in a technical report. Thus we often find ourselves dealing with methods of making estimates, and with their limitations, rather than with the commonly

¹ In "Ecology and the Appreciation of Life," The Boyer Lectures; Australian Broadcasting Co., 45 pages.

uncertain estimates and projections themselves. It is especially in this combination of analysis of underlying assumptions, ecologic orientation, broad scope, and brevity that our report differs from most previous resource assessments.

In preliminary discussions we asked particularly what resources are vital to our well-being and economy now, which are likely to be vital in the future, what substitutions and technological innovations might modify resource priorities, and what limits are placed on population and material growth by resource availability. We also considered the consequences of limited supply of resources, and of varying social and economic concepts that affect their use and adequacy. Such considerations bring out a major difficulty with the planning process: a series of separate decisions, each individually justifiable, can, in the aggregate, lead to results which, had they been foreseen, would have been avoided. To a degree, therefore, we have attempted to view resource management under alternative assumptions about socio-political response and technological evolution, but only enough to indicate that far more extensive analysis of such alternatives will be needed to develop comprehensive resource policies of long-term validity.

Be that as it may, a prime conclusion of ecology is that species whose populations exceed or approach too closely the carrying capacity of resources in the space occupied undergo reduction. Such reductions are often severe, or may lead to extinction—because of disease, pestilence, predation, or aggressive competitors. Although it is true that man has repeatedly succeeded in increasing both the space he occupies and its carrying capacity, and that he will continue to do so, it is also clear that both the occupiable space and its carrying capacity have finite limits which we will approach at our peril.

It is essential, therefore, that we carefully assess and continually reassess these limits, and that we take steps to assure that future generations, as well as people now living, will have the resources necessary for a satisfying life. These resources, moreover, must be so distributed as to exclude catastrophe as a factor in limiting population density. As Marston Bates stresses in Chapter 1, few species of animals ever really live up to the absolute limit of their food supply under natural conditions—other controlling factors intervene, often of the sort that humans would call psychic or psychosomatic. Man also must adapt to his ecosystem—to his physical environment and its biological components. We cannot long operate as a force apart from it, for we are not. Above all, we must be wary of man's tendency to reduce the variety of components in his ecosystem, for this increases its susceptibility to adverse change.

Much of the earth now is threatened with poverty and famine as a result of population increases that locally exceed the carrying capacity of the land. In greater or lesser degree the same danger potentially lurks in all parts of the earth, as Malthus first clearly recognized in 1798. Wishful thinking does not banish the problem. Harrison Brown asked in 1954²: "Is betterment of the situation really within the realm of possibility? And if betterment is possible, at what level can the greatly increased numbers be supported? Lastly are the earth's resources sufficient to meet the enhanced demand?" The same questions haunt us with increasing intensity, as yet almost unrelieved by significant decreases in rates of population growth. By average American standards two-thirds of the world's people are still ill-fed, ill-housed, and ill-clothed, including many in North America. What can we in North America do to aid our own underprivileged, to meet the population increases that will yet precede real population control, and to help the rest of the world?

The answer is that much can be done, given sufficient effort in resource management. But other dangers arise. The quality of life, which we equate with flexibility of choices and freedom of action, is threatened by the demands of an expanding economy and population. This happens in three principal ways: (1) in the restrictive and harmful effects of pollution; (2) in the increasing frequency and complexity of unconstructive but unavoidable human contacts; and (3) in the necessary increase of regulatory measures—all in consequence of increasing use of and competition for resources, space, recreation, transportation, housing, and even educational facilities.

Thus, in addition to energy, mineral, and food resources, the quantity and quality of the human resource itself are critical components of the equation. As John Chapman brings out in Chapter 2, man is not only a part of his ecosystem: he is the most powerful influence in it. He is simultaneously its potentially most precious resource, and its most serious threat. The gains from technological development must always be balanced in as much detail as possible against its

² *The Challenge of Man's Future*, Viking Press, p. 61.

costs. Man's own best interests plead for a more generous attitude toward the rest of nature and less materialistic measures of well-being and success—above all in the developed countries. In such a world it would be easier to bring about dynamically balanced relations between needs and quantity of materials on the one hand and between quality of life and quantity of consumers, on the other.

The growing quantity of people is a key factor whose future dimensions we should like to be able to estimate. Problems involved in that estimate are discussed by Nathan Keyfitz in Chapter 3. Only two things seem certain—there are going to be more people in the future and they will live in denser aggregates. The number of people to be accommodated by the end of the century, moreover, adds a new dimension to current crises. To accommodate these populations, the developed world will require, by the year 2000, additional urban facilities equivalent to all of those already in existence, and correspondingly more for the underdeveloped world. This calls for an entirely different view of our cities and their resource requirements than if we think only of ameliorating specific crises step-by-step as they arise. Complete urban renovation, the creation of new and better living clusters throughout the country, and better and more diversified use of suburban and rural space are a big order; but it is an order that is practicable, necessary, and urgent. There is no simple "best solution." A variety of solutions must be tried, and for all of them the resource-component (including clean air and water) will be central.

Somehow we must manage by the year 2000 to support a population increase in the United States from the present 200 million to somewhere between 300 and 340 million; and an increase of world population from more than 3.3 billion (10^9) to between 6 and 7 billion—an increasing proportion of them in cities. Failure to produce that support would have unacceptable consequences. Population control, essential in the long run, cannot come soon enough to eliminate that challenge. To stabilize populations requires that birth rates not exceed 14 live births per year per thousand people at the 70 year life expectancy sought as a goal for all. Only Hungary, Japan, and Bulgaria currently have birth rates that low. This shows that it can happen, but, as Kingsley Davis has recently emphasized (*Science*, v. 158, p. 730), the inadequate measures that now pass for population control at best eliminate unwanted births. Birth rates over most of the world cannot be brought to control-levels by presently acceptable measures. A zero or negative rate of population increase must be the ultimate goal: but, in the meanwhile, the increasing number of people to be accommodated will severely tax the capacity of the human ecosystem.

Nutrition is the first essential; yet problems of distribution, of local failure to exploit potentialities, and with social customs that dictate what food is acceptable are more immediately urgent than those of quantity available or producible on a global scale. If present world food production could be evenly rationed, there would be enough to satisfy both energy (calories) and protein requirements for everyone—although with drastic reductions for the affluent. All-out effort, including the provision of ample fertilizer and genetic, ecological, and chemical research, could probably quadruple production from the lands and double production from the waters by the end of the century. If such increased production were evenly distributed, it could keep up with population growth expected during the same time and even permit some improvement of diet.

The probable ultimate increase in productivity from the waters is not likely to be much more than about two and one-half times the present production of 60 million metric tons annually—an estimate that emerges from W. E. Ricker's analysis of marine production in Chapter 5. *An increase to as much as four times present production is unlikely.* Perhaps the most important thing to bear in mind about aquatic food products is that they are an excellent source of protein, but a very inadequate source of calories. These only the land can supply in anything like adequate quantity; and an eventual production from the lands of possibly eight times the present production is foreseen by Sterling Hendricks in Chapter 4. To attain this, however, will call for maximum increases in productivity of existing lands, cultivation of all potentially arable lands, new crops, the use of more vegetable and less animal protein, continued risky use of ever-new but, we may hope, degradable biocides, chemical or microbiological synthesis of foods, and other types of innovation.

Foreseeable increases in food supplies over the long term, therefore, are not likely to exceed about 10 times those now available. That approaches a limit. And it seems to place the earth's ultimate carrying capacity at around 33 billion people, *at a level of chronic near-starvation for the great majority!* A world-population of 33 billion is only slightly more than three doublings from the pres-

ent. Allowing for modest fertility decreases, such a figure could be reached by about 2070 in the absence of other controlling factors. More cheerful allowances suggest (Chapter 3) that populations *may* level off not far above 10 billion by 2050; and that is close to the maximum that an intensively managed world might hope to support with some degree of comfort and individual choice, as we estimate such immeasurables. If, in fulfillment of their rising expectations, all people are to be more than merely adequately nourished, effort must be made to stabilize populations at a lower world total than 10 billion. Indeed, it is our judgment that a population less than the present one would offer the best hope for comfortable living for our descendants and long duration for the species.

Man must also look with equal urgency to his nonrenewable resources—to mineral fuels, to metals, to chemicals and to construction materials. These are the heritage of all mankind. Their overconsumption or waste for the temporary benefit of the few who currently possess the capability to exploit them cannot be tolerated.

Energy resources are considered in Chapter 6, by M. King Hubbert. Known or potential energy resources include water power, tidal power, geothermal power, solar energy, and mineral fuels. Of these, water power, if fully developed, would be about equal to that currently generated from fossil fuels. It is erratically distributed, however, and reservoirs silt up. Tidal power and geothermal power are only locally available and are more than two orders of magnitude smaller than water power. And solar energy, although daily renewable and enormous in amount, offers little promise as a major source of industrial power because of the difficulty of achieving the essential concentration and continuity.

Sources of power for the future are to be sought among the mineral fuels, and above all in nuclear energy. It will take only another 70 or 80 years to use up most of the world's initial supply of recoverable crude oil and natural gas! The remaining lifetime for coal, if used as a principal source of energy, would be about three or four centuries. Moreover, we cannot simultaneously use the "fossile fuels" for fuels, petrochemicals, synthetic polymers, and bacterial conversion to food without going through them even more rapidly. A major side-benefit from converting to nuclear energy as our main energy source, therefore, could be the adoption of measures to conserve the "fossile fuels" for other useful purposes, and for *essential* liquid fuels.

Nuclear power from naturally fissionable uranium-235 and from fissionable isotopes obtained by neutron irradiation of uranium-238 and thorium-232 is potentially much larger than that obtainable from all the fossil fuels combined. The supply of uranium-235 from high-grade ores, however, is severely limited, and the potential of nuclear power can be realized only with reactors having a much better "neutron economy" than the present light-water converters. As the neutron economy improves it becomes possible to utilize an increasing fraction of the uranium-238 in natural uranium, or of the supply of thorium-232. It then becomes feasible to draw on the much larger supply of lower grade ores that are not economically competitive in present converter reactors.

Ultimately it will be necessary to have fully "breeding" reactors in order to tap the known and potential reserves of uranium-238 and thorium-232. The actual evolution of the nuclear power industry, however, will depend on a delicate economic balance between using lower grade ores in conjunction with high-neutron-economy but non-breeding reactors, or going more rapidly toward the fully breeding reactor at the cost of the interim consumption of a larger proportion of the non-fissionable component of the higher grade ores.

Controlled fusion has not yet been achieved and may never be. Should it be, however, the energy obtainable from the deuterium contained in 10 cubic kilometers of sea water would be about equal to that of the earth's initial supply of fossil fuels.

On a long-term basis, an achievement no less essential than a practical nuclear energy economy itself must be the development of an adequate system of safe disposal of nuclear fission products. Much progress has been made within the last decade by the U. S. Atomic Energy Commission in the processing and safe underground disposal of the low-volume, high-level wastes. Less satisfactory progress has been made in the handling of the voluminous low-level wastes and solid trash. In fact, for primarily economic reasons, practices are still prevalent at most Atomic Energy Commission installations with respect to these latter categories of waste that on a small scale are barely tolerable, but that would become intolerable with increase in the use of nuclear power by a few orders of magnitude.

The non-fuel mineral resources are very unequally distributed, both as to location and as to grade. No nation is self-sufficient in all of them, even in the short term. The ultimate resources of major industrial metals such as iron and aluminum, to be sure, are very large; for their availability depends mainly on improvements in recovery methods. But true shortages exist or threaten for many substances that are considered essential for current industrial society: helium, mercury, tin, and tungsten, for example. Known and now-prospective reserves of these substances will be nearly exhausted by the end of the century, or early in the next, and new sources or substitutes to satisfy even these relatively near term needs will have to be found. It is not true, although it is widely believed, that tonnages of metalliferous rock generally increase geometrically with arithmetic decrease in grade. Much of Chapter 7, by T. S. Lovering, is devoted to showing why this is an invalid generalization that encourages a dangerous complacency. Neither is abundant cheap energy a panacea for waning resources. Innovation of many kinds will be needed—in methods of finding ore, in mining, in extraction of metals, in substitution, in transportation, and in conservation and waste disposal. For all reusable materials in short supply, appropriate laws or codes restructuring economic incentives could facilitate conservative recovery, more efficient use, and reuse, thereby appreciably extending now foreseeable commodity lifetimes.

It is not certain whether, in the next century or two, further industrial development based on mineral resources will be foreclosed by limitations of supply. The biggest unknowns are population and rates of consumption. It is self-evident, however, that exponential increases in demand cannot be satisfied indefinitely. If population and demand level off at some reasonable plateau, and if resources are used wisely, industrial society can endure for centuries or perhaps millenia. But technological and economic brilliance alone cannot create the essential raw materials whose enhancement in value through beneficiation, fabrication, and exchange constitutes the basic material fabric of such a society.

The mineral and chemical resources of the sea (Chapter 8) will increasingly supplement those from the land—but only for a few of the many commodities we need. Information on which to base a durable assessment of such resources is not now available, but it can be expected to improve as research and exploration increase. Although ocean waters cover two-thirds of the earth, what little is known about the composition and probable history of the three-quarters of the sea-bottom that lies beyond the continental rises does not support the popular belief that this region harbors great mineral wealth. Beneath a thin veneer of young sediments the floor of the ocean basins appears to consist of young basaltic rocks, only sparsely metalliferous, and in constant slow motion toward and beneath the continents. Much more promising are the potentialities of the submerged parts of the continents—of oil from the sediments of the continental shelves, slopes, and rises; and of mineral placers near the coast. Sea water itself is also an important source of some useful elements and salts, but only for a few of those needed.

On the one hand, therefore, mineral and mineral-fuel production from the sea are certainly worth going after, and will increasingly help to meet needs and shortages in certain commodities. On the other hand, there is as yet little basis for assuming that many marine mineral and chemical resources are of large usable volume or feasible recoverability; or that for many essential substances there are any marine resources at all. The existing four billion dollar annual world production of offshore mineral resources is sufficient evidence that profits are to be had from the sea. Its ability to supplement the mineral resources of the lands in the needed variety of products is quite another matter.

To summarize this summary, Chapters 1 and 2 of our report pose the problem: if resources are finite, then, as population increases, the ratio of resources to man must eventually fall to an unacceptable level. This is the crux of the Malthusian dilemma, often evaded but never invalidated. Chapter 3 considers the possibility of a final evasion of this dilemma by population control. Chapters 4 through 8 consider the possibility of escape by increasing resources of food, energy, and minerals, each chapter dealing with essential but not coordinate aspects of the problem. The inescapable central conclusion is that both population control and better resource management are mandatory.

We must add an amplification, however. Studies of animal populations suggest that environmental factors other than simple limitation of material resources may act in unexpected ways to limit populations before theoretical maxima are reached. To consider whether the earth might support a human population ten times that now existing is probably to consider a purely hypothetical situation.

It seems more likely that further crowding, the necessary social and governmental restrictions that accompany dense settlement, and certain kinds of boredom resulting from isolation from nature in an immense, uniform, secular society may prove so depressing to the human spirit or so destructive of coherent social organization that no such population size will ever be reached. Current urban problems are perhaps premonitory of what can come in the absence of more effective attention to the broader problems of resources and man. In attempting to deal with such problems we would do well to consider the basic causes as well as the symptoms.

More specific recommendations arising from this study will be found in the following section. The words we would choose to express the essence of our hopes for the future, however, have already been written—"Our goal should be not to conquer nature but to live in harmony with it." (Roger Revelle, 1967).³

RECOMMENDATIONS

This study highlights the need for better information on which to base an improved assessment, not only of the natural resources of the nation and the earth, but also of the likely future demands on them and of their deeper societal implications. Although no real *terra incognita* remains today, we have much to learn about what we have, how to estimate it, and how to manage it in the best interests of man and nature. The Malthusian limits are more likely to be extended by recognizing their validity and doing something about them than by thoughtless ridicule. We suggest below, therefore, some of the steps that should be taken by the United States to enhance the prospects of an ample world for all.

These recommendations are not intended to be comprehensive or rigorously systematic. Rather their aim is to highlight the steps that most deserve to be initiated or intensified by reason of their special relevance, timeliness, or high potential value to society. They are arranged, according to their main aspects, under four broad categories: I Early Action, II Policy, III Research, and IV Organization. Listed after each recommendation, as appropriate, are the chapters in which substantiating discussion is to be found. Where no specific chapter reference is given, the recommendation is one of those that emerged from the study as a whole, including discussions at our several exploratory conferences.

I. EARLY ACTION

The Committee on Resources and Man recommends that early action be taken on the following:

1. *Detailed assessment of the actual and potential agricultural and forest lands of the world and their classification into best-use categories; together with increased technical help to the farmers of the world.* Many parts of the world are not as productive as they could be, and the fact that others are unproductive arise for poorly understood reasons. Special problems exist in the tropics (Recommendation 19) where the United States should establish a laboratory and field organization for tropical agriculture. This recommendation calls for action by the Department of Agriculture with the collaboration of the State Department and the United Nations.

Chapter 4

2. *A large increase in the level of effort directed toward a comprehensive geochemical census of the crustal rocks of the nation, the continent, and the earth, including those parts beneath the sea.* Better knowledge than we have of the distribution and abundances of the elements is needed to define the world's metallogenic provinces, to develop new exploration techniques, to identify substitutes for materials in short supply, and to designate substances with a variety of physical and chemical properties for consideration in the design of new products. A geochemical census, of course, must be done in the framework of adequate geological mapping, sequence control, and investigations into a variety of geological processes. Such studies ordinarily need lead times of a decade or more before application, but their results can be useful for many decades. The existing program of the U.S. Geological Survey should be intensified and enlarged, and new activities should be started. Global coordination calls for suitable international structures; and with the Geological Survey, the Bureau of Mines,

³ Page 1 of Introduction: in United States Participation in the International Biological Program, U.S. National Committee for the I.B.P., Rept. No. 2.

and university groups playing major operational roles within the United States. *Chapters 6-7.*

3. *That the present Helium Conservation Program be re-evaluated.* Helium is unique in its combination of unusual properties and critical uses. It is essential for cryogenics, superconductivity, cooling of nuclear reactors, exploration of the seabed, and the space program. According to available estimates, it is in short supply, yet it is being wasted in the combustion of natural gasses. Its recovery from these gases and conservation for the future is feasible and is already being done on a limited scale. The adequacy of existing Helium Conservation Program of the Department of the Interior to meet needs beyond the early 21st century requires a careful evaluation. If such an evaluation leaves any question at all about the adequacy of the program it should be broadened without delay to apply to lower concentrations and more natural gas fields. *Chapters 6, 8.*

II. POLICY

The Committee on Resources and Man recommends that the following become matters of national policy:

General policy

4. *To intensify efforts to limit population increase in the nation and the world by whatever means are practicable, working toward a goal of zero rate of growth by the end of the century.* Healthy and intelligent people are man's greatest resource. If limitation of population is not eventually achieved at some reasonable level, moreover, food and other resources will surely be inadequate. With limitation of populations the objective can be shifted from combating starvation and want to the improvement of the human resource and its level of living. Although this recommendation is by no means novel, it emerges again from our study, and particularly from *Chapter 2*, that population control is the absolute primary essential without which all other efforts become pointless. Our Departments of State and of Health, Education, and Welfare should adopt the goal of real population control throughout the world. Ultimately this implies that the community and not only the parents must have a say about the number of children a couple may have. This will require profound modification of current attitudes toward the right of parenthood.

5. *To stimulate innovation of all kinds that will stretch out, renew, enlarge, or substitute for the components of the world's mineral resource base.* A larger energy base, more efficient long-distance transfer of energy, and better transport systems can make available the ores of remote places. Research in the properties, purification, extraction, and fabrication of metals or even non-metals not now used, or used for other purposes, can lead to substitution. New synthetic products made from abundant raw materials should be sought as substitutes for rare or depleting natural commodities. Clad metals (as in present "silver" coinage) can stretch out rare materials and generate new combinations of properties. Man's resources may be limited but his imagination in their use and conservation need not be. Much work of this sort can and should be done under the auspices of the Departments of Interior and Commerce. The need for a constant flow of fresh ideas and new viewpoints, however, will best be met by greater involvement of university groups through sponsored research. Such sponsorship should come not only from mission-oriented agencies, but also from the National Science Foundation in pursuance of its new charter to extend its support of selected areas of applied research.

6. *To promote more pervasive interaction among the environmental sciences, and between them and the behavioral sciences, technology, and the strictly physical sciences.* We need more schools and institutes of environmental science where ecologists, hydrologists, meteorologists, oceanographers, geographers and geologists will work closely together, and with scholars and practitioners from other fields. Such organizations might serve as the cores of new "urban grant" universities intended to nucleate new urban centers, thereby also helping to create the scientific manpower to support the environmental and resource programs needed. More interaction among governmental agencies concerned with different parts of the environment should also be generated, as well as among them and other parts of the scientific and government communities. These goals should be explicitly supported by the National Science Foundation and the Department of Health, Education, and Welfare. Given the interest NSF is now taking in the environmental, applied, and behavioral sciences, institutional structures wherein all could focus simultaneously and in concert on our deteriorating human ecosystem could be a major step toward its improvement.

7. *To pursue the formulation of natural resources policies for the nation, the continent, and the world—through whatever government structures and bilateral and multilateral covenants may best serve such purposes.* Resources are not a one state or one county affair; they concern the whole world and all people. The international character of the formulation of resource policy clearly requires the participation of the Department of State, which must develop the necessary mechanisms to work in close conjunction with the Departments of Interior, Agriculture, and Commerce.

Policy with regard to sources of food

8. *To increase the efficiency and capacity of agricultural productivity, both in the United States and abroad.* This is necessary not only to protect national food reserves, but also to help those countries in need. Overproduction of perishable products must be controlled as well as underproduction, for it is evidence of poor national management and vitiates the improvement of farm production and management. The Department of Agriculture has been working in these directions for a long time, in collaboration with the Department of State and the United Nations. The effort should be continued, improved, and intensified. *Chapter 4.*

9. *To regulate fisheries now declining in yield because of over exploitation, as well as to control the catch of other stocks that will be threatened in the future.* This involves knotty problems of internal jurisdiction and international negotiation, but they must be overcome. In this case the Department of Interior, with the collaboration of the State Department and other organizations, has done what it could. But again the effort needs to be increased, improved, and extended. *Chapter 5.*

10. *To expand fishing efforts toward currently underexploited stocks, both in the sea and in fresh waters.* In this sense "fishing" refers not merely to fish, but to the capture of all kinds of edible aquatic organisms, plants as well as animals. Again the Department of Interior is already interested and further initiative should come from them. *Chapter 5.*

11. *To improve and extend the use of aquatic "farming" operations, not only in fresh waters, but also in marine and brackish water bays and estuaries.* Particular attention should be given to operations that do not compete seriously with use of other resources. Examples would be ponds sited in swamps or on tide-flats, and shellfish culture either on the sea bottom or from rafts. Responsibility for this effort could rest equally with the Department of Interior directly and with the National Science Foundation through its authority under the Sea Grant program. *Chapter 5.*

Policy with regard to sources of energy

12. *To speed the development of high-neutron-economy reactors, including an efficient and safe type or types of breeder reactor(s).* The development of nuclear energy is an urgent national and global goal because of the approaching depletion of fossil fuels and the need to conserve them for other purposes. But without greater utilization of uranium-238 and thorium-232 through breeding or other efficient conversion, the economics of nuclear power is such that the supply of uranium-235 from high-grade ores at current prices could become severely restricted within a few decades. The achievement of nuclear fusion, of course, would greatly extend nuclear reserves in the very long term, and fundamental research in this field should be continued. *Chapter 8.*

13. *To conserve the fossil fuels for uses which cannot be met by other sources.* The fossil fuels (petroleum, natural gas, coal) are needed for petrochemicals, synthetic polymers, and essential liquid fuels, for which suitable substitutes are as yet unknown. They might also play a part in synthetic or bacterial food production (although such a use is also limited). They should not be spent in the generation of electricity, for heating, and for industrial purposes where substitutes can qualify. The Department of Interior should be authorized and directed to develop and institute a practicable and effective Hydrocarbon Conservation Program. *Chapter 8.*

Policy with regard to non-energy mineral resources

14. *To encourage the re-use and better use of materials that can be recycled, and to require this for mineral commodities known to be in short supply.* Incentives should be devised to encourage the optimum use of metals and other materials, as well as proper disposal of spent substances. Research on problems and methods of re-using or otherwise extending the lifetimes of all kinds of materials, as well as the recovery of wasted or deleterious by-products, should be supported,

both for conservation and to reduce problems of pollution and waste disposal. The automobile is a prime target for improvement. The copper content of the average car should be reduced from about 1.4 percent to 0.4 percent or less of the total carcass and problems of recovery simplified. The metals involved could then be used repeatedly, with greatly reduced waste and with elimination of unsightly modes of disposal. New methods of combining metals in clad structures, for instance, make it possible to utilize the desired properties of special metals such as copper with great economy, better structural properties, and reduction to levels that eliminate the adverse effects of mixing. Other targets are the wasteful disposal practices that could be improved to salvage more used metal. Military uses and the exploration of space, of course, are especially demanding on supplies of relatively rare metals. To the many urgent reasons for seeking peace and for damping the arms race must be added the conservation of unreplaceable resources for future generations. In addition, the Departments of Interior and Commerce should be authorized and directed to collaborate in developing and instituting a practicable and effective Metal Conservation Program. *Chapters 2, 6.*

15. *To reduce the lag between the recognition of probable mineral resource shortages and the start of investigations intended to meet them.* On land it takes an average of about five years from the beginning of surface exploration for new deposits to be found and another five years of underground exploration and development to bring them into production. Even longer lead times will be needed in developing marine mineral resources. And very long lead times must be allowed for the surveys and research needed to establish an exploratory framework or to underpin long-range forecasts. Specific recommendations on such matters should be a primary function of the Department of the Interior, which should continue and expand its exploration program. *Chapters 6, 8.*

16. *To accelerate and intensify geological exploration of the continental shelves and borderlands.* Leaving out the obvious need for greater effort on the lands, the continental shelves, slopes, and rises are the parts of the sea that are most likely to contribute useful and abundant mineral commodities to supplement our depleting reserves on land. They should be studied not only for their broad surficial features, but also at depth by drilling, and in areal detail in regions that offer good prospects either of containing mineral resources or contributing to an understanding of their origin. Contiguous areas ripe for such detailed studies include parts of the Atlantic shelves, the continental borderland of southern California, and the Bering shelf. In emphasizing the continental margins, of course, we merely stress the logical priorities. We do not overlook, but rather consider as severely limited, the possibility of resources from the other 75 or 80 percent of the sea. Programs now in progress on the continental shelves by the Department of Interior should be continued, enlarged, and wherever possible improved; and Interior's cooperative efforts with university groups should be increased. *Chapter 7.*

17. *To resolve legal problems involved in marine exploration and mining with as little delay as possible, and to seek international agreements that will facilitate underwater exploration.* Neither national nor international law is really clear as to the limits within which discoveries made may be claimed by private, state, or national interests. Clarification is needed, both to encourage exploration and to avert troublesome disputes over ownership of marine mineral resources beyond the continental shelves. National interests beyond the continental slopes could well be submerged in favor of some workable international jurisdiction such as suggested in the "Maltese Proposition"—with gain for international cooperation and little loss of potential territorial wealth. The Departments of Interior, Commerce, and State should work together on these problems. *Chapter 7.*

III. RESEARCH

Research is clearly an essential component of many of the preceding recommendations, yet there are additional topics in need of intensified research which we believe deserve early attention. The Committee on Resources and Man, therefore, recommends greatly increased research on:

General

18. *The complex of non-material factors that affect man's use of and demand for resources.* Although circumstances beyond its control required the present Committee to bypass most aspects of such a study, its inquiries so strongly reinforce the need for it that we urge the formation of another group to study the various social, psychological, legal, medical, religious, and political aspects of the problems of resources and man that we have been forced to set aside.

What, for instance, are the consequences of man's different conceptual environments—of how he imagines things to be regardless of how they really are? What is the effect of religion and religious differences on the nature of and demand for resources? How can cultural preferences be altered so as to relieve demand on resources and reduce pollution while minimizing social disruption? What are the processes whereby regulation of family-size is best achieved? How do resources and economic factors really interact? What are the resource consequences of technological development and of different densities and patterns of human settlement? As in the case of Recommendation 6, the National Science Foundation would do well to consider this an area of major focus for its growing program in the behavioral sciences. The Department of Health, Education, and Welfare, of course, should also be involved.

Research on sources of food

19. *Tropical lands and crops.* The tropics are among the most thickly populated regions of the earth, yet they produce insufficient food for their populations. This poor productivity in food resources for humans is in part due to the unusual ecological diversity of large parts of the tropical climatic zone. It is also in part because, for geologic and climatic reasons, many non-volcanic tropical soils are deficient in mineral nutrients as compared to those of the middle latitudes. It will require more than good seeds and good management to turn the Amazon Basin into another "breadbasket." Assuming it can be done, it will require enormous quantities of mineral fertilizer and a good share of creative agricultural science. These and interacting sociological and economic factors must be weighed in seeking to develop new food crops that could increase the present productivity of tropical regions without seriously impairing their ecological stability. Like Recommendation 8, this is clearly a job for the Department of Agriculture, with the collaboration of the State Department; but continuation of the good works of the Rockefeller Foundation should be encouraged, and the participation of the National Science Foundation in the longer range aspects of the program through the sponsorship of private institutions is also important.

20. *The productivity of the sea and fresh waters.* How can aquatic productivity useful to man be increased and a larger fraction of food be harvested from the waters without endangering desirable species? The variety and quantity of food products from the sea might be increased (a) by transplantations shown to be feasible as a result of studies of life cycles of organisms and their ecological adaptivity; (b) by more widespread culture of food animals; and (c) by improved methods of capture. More intensive fishing for some species is desirable, whereas for others greater yield must be sought by restricting fishing effort under international agreement. Research alone can produce the information needed to resolve such questions. Like Recommendations 9–11, this recommendation involves a clearly defined mission of the Department of Interior, but it could also appropriately be furthered by National Science Foundation grants in the underlying supporting disciplines such as aquatic biology and ecology. *Chapter 5.*

21. *Methods of harvesting currently unused but edible aquatic organisms.* Many species of marine organisms can be eaten and occur in quantity but are difficult to catch in large volumes. A practicable method for harvesting the larger species of animal plankton, for instance, would permit us to work closer to the base of the food pyramid and thus to utilize a larger fraction of the total stock. Although this would carry the risk of affecting other fisheries adversely, it might be done in regions where the planktonic animals are not being consumed in quantity by usable animals. The small crustaceans called krill, for example, although abundant in both Arctic and Antarctic seas (and formerly harvested by whales) are not now being utilized. This recommendation involves an established mission of the Department of Interior, but the National Science Foundation could also play a part by support for this objective under its Sea Grant program. *Chapter 5.*

22. *The processing, marketing, and consumer-acceptance of products such as fish-protein concentrates.* Proteins and fats from the waters could be much more widely and effectively used in human nutrition if organisms not now acceptable for food as harvested could be concentrated in palatable form. In view of their established missions, this recommendation concerns the Departments of Interior, Commerce, and State. *Chapter 5.*

Research on mineral resources

23. *The geology, discovery, and development of ore deposits.* Especially needed are studies of the genesis, localization, and discovery of ore bodies that have

no surface manifestation—"blind" ore bodies. New methods must be employed in seeking such ore, and better methods are needed in evaluating and recovering it. Concepts of metallogenic provinces also need to be clarified and extended; for they might help greatly with the intensified geochemical census urged in Recommendation 4. Equally needed is research on the geology, exploration methods, and evaluation and recovery of marine mineral resources. The U. S. Geological Survey and the U. S. Bureau of Mines should be encouraged to expand and improve their programs dealing with such problems. *Chapters 6, 7.*

24. *The geology of the sea floor, both on and beyond the continents.* Although prospects of specific rewards should not be called upon or required to justify deep sea geology, *some* new mineral wealth can certainly be expected as a partial consequence. Such bonuses, to be sure, may come as much or more because of a better understanding of the processes involved in generating deposits now on land, as from actual discovery of ore deposits at the sea floor. At the very least, sea floor studies will contribute to better concepts of the structure, evolution, and management of the earth. Such research can and should be undertaken by a number of different government, private, and university organizations, and all should be encouraged. The continued healthy growth of the Sea Grant program of the National Science Foundation, in particular, could serve this end. *Chapter 7.*

IV. ORGANIZATION

A majority of the Committee was of the opinion that new organizational structures may be needed to facilitate the monitoring of resource developments and the evolution of future resource policy, but we could not agree on what kinds of structures were needed or where they should be located. Therefore we recommend that:

25. *A study be made of the monitoring and policy-making mechanisms now in effect with regard to natural resources, with a view to improving existing procedures or establishing better ones.* An efficient and comprehensive review system is needed for identifying prospective shortages and recommending appropriate remedial action well in advance of crisis. Better means than we are aware of are also needed for dealing with the implications of natural resources for national and global policy, with their bearing on national and international well-being, and with new developments that may affect the availability, quality, and use of resources of all kinds. Some members of the Committee believe that a separate and autonomous monitoring body may be needed, such as a Natural Resources Board within the National Academy of Sciences, and that a counterpart executive Office of Natural Resources Policy may be required to deal with policy aspects of the findings of such a board. Others believe that existing mechanisms could suffice. Such differences can be resolved only on the basis of more comprehensive consideration of the problem than we have been able to give it.

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APPENDIX 2

STATEMENT BY SENATOR JACKSON

Early in this session of the Congress, I introduced legislation in the Senate to establish a national policy for the environment. I introduced this measure because it is my view that our present knowledge, our established policies, and our existing institutions are not adequate to deal with the growing environmental problems and crises the nation faces.

The inadequacy of present knowledge, policies, and institutions is reflected in our nation's history, in our national attitudes, and in our contemporary life. We see this inadequacy all around us: haphazard urban growth, the loss of open spaces, strip-mining, air and water pollution, soil erosion, deforestation, faltering transportation systems, a proliferation of pesticides and chemicals, and a landscape cluttered with billboards, powerlines, and junkyards.

Traditional governmental policies and programs weren't designed to achieve these conditions. But they weren't designed to avoid them either. And, as a result, *they were not avoided*.

As a nation, we have failed to design and implement a national environmental policy which would enable us to weigh alternatives, and to anticipate the undesirable side effects which often result from our ongoing policies, programs and actions.

Today it is clear that we cannot continue to perpetuate the mistakes of the past. We no longer have the margins for error and mistake that we once enjoyed.

It was in view of this background and these considerations that I introduced S. 1075, my bill to establish a national environmental policy.

The purpose of this legislation is threefold: *First*, to establish a national policy on the environment; *Second*, to authorize expanded research and understanding of our natural resources, the environment, and human ecology; and *Third*, to establish in the Office of the President a properly staffed Council of Environmental Quality Advisors.

During the hearings on this measure on April 16, Dr. DuBridge, the President's Science Advisor, and Secretary Hickel of the Department of the Interior, announced that the President is considering the establishment of an interagency environmental council composed of selected Cabinet officers. As I stated at the hearings, this indicates to me: "that the President and officials in the executive branch share the belief of many of us in Congress that some reorganization is necessary. The President apparently agrees that the existing administrative establishment is inadequate for the task we face, and that a focal point for the environmental considerations of government should be designated."

It was the initial view of the Administration's representatives that the President's proposed interagency council would make an independent Council of Environmental Advisors as proposed in my bill unnecessary.

For the most part, the members of the Committee and the public witnesses did not agree with their position. There was, however, general agreement by all concerned that there is a need to restructure the Federal government to provide a focal point for environmental considerations.

It is my view that what is needed is an impartial, objective, full-time Council of Environmental Advisors in the Executive Office of the President. The interagency Council the President is considering would be useful for implementing action proposals, but the President also needs independent and impartial advice as to what action to take. The Council I have proposed would be properly staffed and equipped to provide this advice.

As a result of the April 16 hearing on S. 1075 and subsequent discussions with the Administration, I believe that there is now general agreement on the need for both an interagency Council as proposed by the President, and a high level independent body as proposed in my bill.

It is my understanding that an announcement will be made today that the President has signed an executive order to establish the interagency Council on the environment. I applaud the President's action. I intend to seek early Senate action on S. 1075 so that the President and the American people may have the benefit of the independent and impartial staff support and advice of the Council which I have proposed.

During the April 16 hearing on S. 1075, the Administration agreed that there is an urgent need to enact into law a statement of national policy with respect to environmental management, and that they would support a statutory declaration of national policy. Subsequent to the hearings, I directed the Interior Committee staff to draft an expanded statement of national environmental policy which defined our national environmental management goals, and to grant new authority to Federal agencies which, at the present time, have no mandate or responsibility for the management and protection of the human environment.

This expanded statement of national policy has been prepared as an amendment to S. 1075. It will become Title I of the bill and the other titles will be appropriately redesignated. Mr. President, I ask unanimous consent that this amendment be printed in the Record at the conclusion of my remarks.

A statement of environmental policy is more than a statement of what we believe as a people and as a nation. It establishes priorities and gives expression to our national goals and aspirations. It serves a constitutional function in that people may refer to it for guidance in making decisions where environmental values are found to be in conflict with other values.

Many operating agencies do not at present have a mandate within the body of their enabling laws to give substantive attention to environmental values. This is especially true of the older Federal programs.

A properly drafted Congressional statement of national environmental policy, along with a requirement for official statements of environmental findings in Federal decisions and legislative proposals, will effectively make the quality of the environment *everyone's* responsibility. No agency will then be able to maintain that it has no mandate or no requirement to consider the environmental consequences of its actions.

I am introducing this policy statement as an amendment to S. 1075 at the present time because I want the statement to be available to the Administration prior to the Senate Interior Committee's informational hearings on June 3 and 11 on the Everglades National Park. At the June 3 hearing, I will want to have the judgment of the Administration witnesses on what the effect of this policy statement would have been had it been enacted at the time the Park was created by the Congress.

Mr. President, an environmental policy is a policy for people. Its primary concern is with man and his future. The basic principle of the policy is that we must strive, in all that we do, to achieve a standard of excellence in man's relationship to his physical surroundings.

It is my belief that the amendment I am introducing today will go far towards ensuring that the Federal government both sets and abides by standards of excellence; standards which will ensure that our generation fulfills its responsibilities as trustee of the environment for future generations.

AMENDMENT INTENDED TO BE PROPOSED BY MR. JACKSON TO S. 1075

A BILL TO authorize the Secretary of the Interior to conduct investigations, studies, surveys and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality

On page 1, strike all after the enacting clause and on page 2 strike lines 1 through 6 and insert in lieu thereof the following:

"SHORT TITLE

This Act may be cited as the "National Environmental Policy Act of 1969."

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his natural environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisors.

TITLE I—DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploita-

tion, and new and expanding technological advances on our physical and biological surroundings, and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other unintended, unanticipated, and undesirable consequences;

(4) preserve important historic, cultural and natural aspects of our national heritage, and maintain, wherever possible, diversity and variety;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations and public laws of the United States be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal government—

(1) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decision-making which may have an impact on man's environment;

(2) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations;

(3) include in every recommendation or report on proposals for legislation or other significant Federal actions affecting the quality of the human environment, a finding by the responsible official that—

(i) the environmental impact of the proposed action has been studied and considered;

(ii) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by stated considerations of national policy;

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and

(iv) any irreversible and irretrievable commitments of resources are warranted.

(4) study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water or air;

(5) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(6) review present statutory authority, administrative regulations and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress within one year after the date of enactment such measures as may be necessary to make their authority consistent with this Act;

SEC. 103. The policies and goals set forth in this Act are amendatory and supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

Renumber remaining titles and sections accordingly, and amend the title so as to read:

"To establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisors."

APPENDIX 3

Man and His Environment

America must look to its resources as never before. Population growth and the migration to the city, coupled with enormous technological change, have brought about unbelievably vast increases in consumption of energy fuels, minerals, raw materials, and pressures on available water and land.

There is a continuing movement toward higher living standards, shorter hours of work, availability of more leisure time to use in more ways, and changing space relations on the heels of a major revolution in transportation of goods and people.

These changes, which show no signs of diminishing, are indissolubly linked with natural resources. They affect productivity, income, taxes, the money workers pay for goods and services, their leisure time, and the social and political institutions under which they live.

AFL-CIO President George Meany put the problem in perspective recently. He said: "Ambitious but too often heedless Americans have long since occupied the last frontier, felled the once limitless forests, slain the countless game, tilled the prairies, fouled the lakes and rivers and polluted the air. Now the evils committed in the name of progress must be undone; what remains of nature's beauty must be preserved and the air and the waters purified."

To meet the conservation challenge of the last third of this century requires the understanding and efforts of all Americans. It is a task which has the full and continuing support of the trade union movement.

This support has been spelled out in countless ways before Congress, government agencies, state and local governments. The trade union movement's basic positions are summarized in this publication—a collection of updated and revised articles by George Taylor, an economist in the AFL-CIO Department of Research, that originally appeared in the AFL-CIO American Federationist.

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THE CRISIS IN LAND USE



America contains a fixed amount of land which is being subjected to increasing demands of more and more people. The onrushing technological revolution, increasing living standards, greater consumption, more leisure time and the new age of transportation are placing enormous burdens on the bounty of the land and sharpening competition and controversy over its control and use.

Every day, somewhere in the country one can glimpse bits and pieces of the problem:

- The urban center that rises in aluminum and glass splendor while the displaced poor burrow deeper into the wretchedness of the ghetto.
- The water course running brick-red or chocolate brown with the topsoil washed off a suburban housing development or from farms being mined for money crops.
- The farmland and woodland sliced up by freeways.
- The shopping centers and massive apartment complexes mushrooming on land better suited for city dwellers' recreational needs.
- The desolation and poverty of cutover timber land and the ruin that remains in the wake of strip mining.
- The hideous wasteland of auto junkyards and the unsightly strings of service stations and factories leading into major cities.

In 1900, each American had the equivalent resources of 25 acres of land; by 1950, this was down by one-half to 12.5 acres; in 1966, there were 9.7 acres of land per capita. When the year 2000 rolls around, there will be less than 6 acres of land per capita. And the price of land mounts as intense competition for its uses grows and speculators add to the upward price spiral.

These figures do not reveal that seven of every ten Americans now live in urban areas which occupy only about 1 percent of the continental area of the United States. It is estimated that eight of every ten Americans will be living in metropolitan areas by the end of the century. Most of them will live in three super-metropolitan areas that stretch from Boston to Washington, from Buffalo and Pittsburgh to Milwaukee and from San Francisco to San Diego.

It seems like only yesterday that hunger for land and freedom drew the first colonists here. It seems like only yesterday that the settlement of the continent was accomplished with the ebullient optimism that the bounty of the American earth was boundless and there would be no tomorrow.

From colonial days to the atomic age, control and use of the land were issues that have moulded the

lives of generations of Americans. It has been and continues to be conditioned by the long battle between differing philosophies of property rights and ownership and of the nature of government.

The Republic in its infancy was precariously situated between the Atlantic and the Alleghenies, looking westward across a vast continent that national imperatives demanded be taken and subdued.

Early U.S. land policy laid the basis of survey and settlement in family-sized parcels, characterized, in the words of Daniel Webster, by "... a great subdivision of the soil and a great equality of conditions, the true basis, most certainly, of popular government."

The 1.8 billion acres of land in the public domain were disposed of in the form of grants to aid schools and colleges, for the improvement of stock raising and agriculture, for roads, railroads and canals, for extraction of metals and minerals, for commercial timber and for formation of new states.

By 1900, the axe had cleared more than 300 million acres of virgin forest. The plow had ripped open nearly 300 million acres of virgin grasslands. The rich store of metals and minerals was being exploited to provide the raw material sinews of an urbanizing industrial society. The country was linked together by trans-continental railroads. Agricultural abundance was serving regional, national and world markets. Immigrants from abroad, as well as rural and small town people, were pouring into the cities.

The nation was painfully awakening from its blissful dream of eternal abundance. It found that creation of an industrial giant and an emerging world power had run up some enormous due bills. It began to appraise its land resource with new and uneasy eyes.

Coming of age as a nation carried with it a heavy price. Timber and grasslands had been ruthlessly exploited. Wasteful mining had gutted huge areas. Whole species of wildlife had been wiped out or were in danger of extinction.

America was brought into the modern conservation era by Theodore Roosevelt and Gifford Pinchot at the turn of the century. Looking at the land through the eyes of the new breed of conservationists, the public saw 1,904 billion acres of land within the continental limits of the United States containing a wide range of productive capacity, with climate (including precipitation), topography, soil and river systems the most important controlling factors and producing great differences in its potential.

The public was being taught that the resources on this land, taken in their entirety, were great but not limitless, that many of them were not renewable—such as metals and minerals. The public was being taught that the strength and wellbeing of the country required careful resource preservation, development and management and strong protection against monopolies.

The role of the federal government in resources was being sharply redefined to deal with a problem of national scope and new dimensions. No longer was it to be a passive instrument for giving away the public

domain, but the principal planner, investor, steward, researcher and regulator. The new public policy guideline was that all possible benefits stemming from the use of the land be attained and shared by all the people.

From Teddy Roosevelt's era came the new concept which has been the yardstick of all conservation programs on the land—comprehensive, multipurpose development and use, with the river basin as the operating unit, reaching its fruition in the Tennessee Valley Authority.

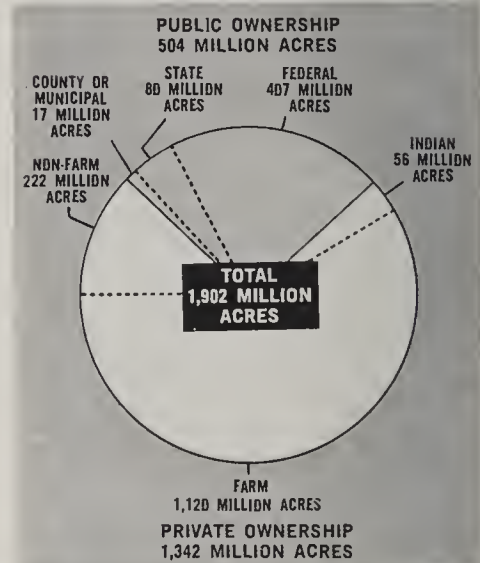
This concept grew out of Pinchot's insight that all separate resources questions were merely parts of "... the one great central problem of the use of the earth for the good of man."

By the time the New Deal came in, the bottom had fallen out of everything for farmer, city dweller and the nation.

Franklin D. Roosevelt loved the land like no other president. He had put 10,000 unemployed men to work on New York's forests while governor of that state. In his inaugural address, he talked of putting a million men to work restoring United States timber and rangelands.

What the New Deal did to restore the people and their land is familiar history—the Civilian Conservation Corps—uniquely FDR's idea; TVA, whose work to conserve the soil, change the farm practices of the

LAND OWNERSHIP
48 Contiguous States*
(1960)



* Excludes Alaska and Hawaii. Federally-owned land in Alaska totals 364 million acres.

region and restore the forests was as important but less known than its dam building and electric power programs.

In 1935, Congress passed the Soil Erosion Act, creating the Soil Conservation Service, with Hugh Bennett its first director. By 1940, there were 314 Soil Conservation Districts on 190 million acres and, by 1960, nearly 3,000 located in every state and operating on 98 percent of total U.S. croplands.

The Taylor Grazing Act in 1934 regulated use of public domain for cattle and sheep, established user fees and created the Grazing Service out of the old General Land Office in the Department of the Interior.

More land and money was made available for protection of fish and wildlife, for national parks, monuments, recreational and primitive areas. The Biological Survey was shifted to the Department of the Interior and became the Fish and Wildlife Service.

The private timber industry began to emphasize modern forestry management during this period, while new lands were added to national forests and programs to aid state and private forestry programs were begun. The Great Plains shelter belt of trees, conceived by Ferdinand Hayden 75 years previously, was instituted by Franklin D. Roosevelt. By 1955, it extended 2,000 miles, from Canada to Texas.

In the cities and towns, land was acquired under federal programs for low-cost public housing. Efforts to establish self-contained "greenbelt" communities were begun on a pilot basis. The goal was to buy up cheap land around cities, tear down city slums, relocate their former inhabitants in well-planned garden towns and establish cultural centers and parks in the city cores. This concept of Rexford Tugwell had a perverted result in the unplanned suburban sprawl of the post-Korean era, but it also was the genesis of President Johnson's demonstration cities program.

By 1960, it was evident that problems of population increase, the growth of great metropolitan areas and the galloping technological revolution no longer could be ignored. The increase of leisure time from shorter hours of work, cheaper travel and higher wages and salaries were bringing the need for more places to play for Americans. There was a mounting drain on non-renewable resources of the land, enormous problems of the future of cities and their ability to function effectively for people and their needs and a slow but pervasive poisoning of the environment by the waste products of industrial technology.

Since the 1930s, there had been little change in the pattern of land uses, but the competition among uses—for highways, suburban and city housing, for commerce and industry, for recreation—was increasing. There was enormous unplanned land waste and there was unconscionable speculation in land.

The New and Fair Deals developed federal mortgage insurance programs for middle income people and for detached suburban homes. It resulted in enormously expanded home ownership and construction, but also caused unplanned urban sprawl—a disar-

ranged flight to the suburbs from city centers and an intensification of local and regional land use problems.

The 1949 Housing Act, which authorized federal aid for urban redevelopment, was intended to retain the vitality of the central city by rebuilding its decaying framework. This program, too, has accentuated the problems of the poor and middle-income families by removing them from condemned housing and giving them the choice of leaving town or finding even worse accommodations.

The land retirement program to reduce production of soil destroying crops was expanded under President Truman and carried on by the Eisenhower Administration.

By the 1960s more than one-third of America's land was still publicly owned, most of it federally, but large areas also were held by the states. Most federal land had never been in private ownership, particularly in the 17 western states and Alaska. On the other hand, the states disposed of more than 65 percent of their land holdings over the previous years.

Land acquisition by public agencies for public uses is on the rise again. This trend will increase, particularly for recreation, with emphasis on nearby facilities to serve the great metropolitan regions. There will be greater use of the power of government for public undertakings—eminent domain, easement, police power and power of the purse.

The Kennedy and Johnson Administrations ushered in a new conservation era. The frontiers are the city. The emphasis is on quality, development and preservation, esthetics, recreation, population, environmental hazards. Here are some of the major problems involving land use and the federal programs enacted to deal with them:

- Cities and towns: Community Facilities Act, the new Department of Housing and Urban Development and the Economic Opportunities Act. The newly enacted Demonstration Cities program to be administered by the Department of Housing and Urban Development establishes the basis for a broad attack on the most crucial metropolitan problems—the slums, housing and recreation needs, urban blight and mass transportation, but lacks adequate financial resources.

- Special regions: Appalachian Regional Development, Area Redevelopment and the Public Works and Economic Development Acts.

- Outdoor recreation: Land and Water Conservation Fund, Open Space and Wilderness Preservation Acts. The largest addition in history to America's national parks system, with several proposed areas awaiting final action.

Also enacted was the Highway Beautification Program and legislation making recreation a part of any decisions on multi-purpose water development projects.

- Fish and wildlife: Congress empowered the Secretary of the Interior to use stronger measures, including land acquisition, to protect species of wildfowl in danger of extinction.

- The federal public domain: The Land Classification and Multiple Use Acts.

- Agriculture: The Conservation Reserve, Rural Areas Redevelopment and Food for Freedom programs.

- The environment: Amendments to the Water Pollution Control Act; the Clean Air Act and amendments; the Solid Wastes Act.

Passing legislation is only the beginning. How it is administered and how adequately it is financed are crucial to its success. It is difficult to assess either the immediate or longer-range value of the manifold federal programs affecting the land which have been established since 1961. There is a mixture, both of concrete achievement and of mere reshuffling of programs. Duplication of functions, programs at cross purposes and tight-fisted budgeting continue to block meaningful progress. There is no integrated land policy.

The City

America's new frontier is the city—with its rapidly growing population and deteriorating pockets of slums and poverty.

The conflict in land uses is a massive roadblock to the orderly development and improvement of the life of people in towns, cities and larger metropolitan areas.

Much land is not being used at all. Much is being misused and not assigned to its best function. Speculative forces freeze land-use patterns into profits instead of the public interest. Urban governments are enclosed in a trap of constantly expanding public service requirements which are outpacing available local revenues. Their planning and zoning agencies are subjected to enormous political and speculative pressures.

Planning for urban land use must change its emphasis. There is a great need for an adequate supply of decent housing for poor and middle-income families. There is also the need for schools and hospitals, clean air and water, transit systems and highways, libraries and museums, parking areas and recreation facilities. Meanwhile, urban sprawl, loss of good land to freeways, vehicular congestion and polluted air and water problems grow more serious. Horse and buggy political institutions as reflected in the maze of local juris-

dictions cannot cope effectively with land-use problems.

The price of land, particularly in urban areas, has been in an upward spiral since the 1930s. In the downtown areas of major cities, land is sold by the square foot and speculators amass fortunes each year from putting together land parcels for luxury office and apartment buildings. And in the suburbs, too, land prices soar. The average price of lots of federally-insured one-family homes skyrocketed 200 percent in 1951-1965. Unless this problem is solved, it will become increasingly expensive and most difficult to rebuild American cities.

How much longer can the great metropolitan areas grow and retain their ability to perform their essential functions? What changes are necessary to enlarge freedom of choice for the poor and for minority groups? What is the effect of this haphazard growth on the quality of living and the creative human spirit?

The AFL-CIO policy resolution on urban America "urges the federal government to undertake a massive effort to rebuild our cities." Labor's program includes several key proposals which involve changes in land use patterns: An increase in low-rent public housing, including equal housing opportunity without regard for race; increased federal capital grants for urban renewal programs and community facilities, with higher matching funds for the largest cities where needs are greatest and increased federal assistance to achieve forward-looking metropolitan area planning.

How effectively large urban areas plan for land use will in large measure determine whether the big cities will continue to sprawl formlessly over the landscape while the cancer of urban blight gnaws away their central cores. Now is the crucial time for the cities to resume their historic roles as seedbeds of creative ideas and fruitful associations of people.

The Farm and the Forest

Since the 1920s, the technological revolution on the farm has made it possible for a super-abundance of

Contrast in land use. Left: Earth is torn open for hard coal. Right: Block-cutting in a national forest reflects sound conservation.



crops to be produced without any significant addition to the nation's cropland area.

This tremendous changeover in farming methods has taken the form of mechanization—replacing millions of draft animals and millions of farm workers through rural electrification, pesticides, fertilizers, better strains of plants and a constant input of new information from governmental and private research.

Between 1940 and 1963, farm production rose 60 percent while the number of farm workers dropped from 11 million to 6.5 million and the farm population fell off precipitously from 30.5 million to 17.1 million. Most of the displaced rural people migrated into the towns and cities.

In 1900, one farm worker produced enough to feed 7 persons. In 1940, he could feed 17. Now his productivity can feed 31.

To raise all a nation requires year in and year out has been a goal sought by peoples since the beginnings of history.

The United States stands between famine and enough to eat in developing nations around the world. The Food for Peace program has expanded to the point where Secretary of Agriculture Orville Freeman has declared 60 million acres of land in the "conservation reserve," eligible for planting in wheat and feed grains for next year's harvest.

The American farmer over the next several years increasingly becomes a key man in the subsistence future of much of the world. The ability to continue to increase his productivity on a limited amount of cropland is of enormous importance.

Yet erosion and faulty drainage remain serious problems on substantial areas of farmland. Too many farmers regard their land as a capital asset and concentrate on raising productivity at the expense of soil conservation.

A keystone of the nation's land policy since 1785, the family-operated farm has been actively and consistently supported by organized labor since the 1870s. The AFL-CIO continues its strong efforts to prevent the weakening of the 160-acre restriction provisions of federal reclamation law in California and Arizona under the less than forceful administration of the Secretary of the Interior and the pressures of the powerful farm corporations of those states.

From 1949 to 1964, there has been a sharp decrease of 1.8 million in the number of farms—from 5.2 million to 3.4 million units. This drop took place almost entirely among the small part-time, technologically inefficient and non-commercial holdings with less than \$2,500 annual sales. Those with more than \$2,500 annual sales remained about the same in number. And farm land values have risen more than 70 percent in the last decade, according to the Department of Agriculture.

Relatively large farms are increasing in number and relatively small farms with marginal income are decreasing. Family farms are getting fewer and larger,

THE USE OF THE NATION'S LAND

| USE OF LAND FOR: | MILLIONS OF ACRES | | |
|------------------------------|-------------------|-------------|-------------|
| | 1960 | 1980 (Est.) | 2000 (Est.) |
| URBAN (including city parks) | 21 | 32 | 45 |
| RECREATION | 44 | 76 | 134 |
| TRANSPORTATION | 26 | 28 | 30 |
| RESERVOIRS | 12 | 15 | 20 |
| CROPLAND (including pasture) | 447 | 443 | 476 |
| FARMLAND (non-producing) | 45 | 45 | 45 |
| GRAZING LAND | 700 | 700 | 700 |
| COMMERCIAL FOREST LAND | 484 | 484 | 484 |
| WILDLIFE REFUGES | 15 | 18 | 20 |
| OTHER LAND | 110 | 63 | -50 |
| TOTAL LAND AREA | 1,904 | 1,904 | 1,904 |

SOURCE: "Resources in America's Future," Lansberg, Fishman and Fisher, 1963.

but there is no strong trend toward their replacement by the huge factories in the field.

The main problem of land use for commercial timber is the expected deficit in forest products by the year 2000 as related to supply. The U.S. Forest Service estimates that requirements for timber products will increase by 80 percent between now and 2000 and, by that time, supply could fall short of this demand by 16 percent or some 13 billion board feet.

Continued population growth could lead to demand far in excess of the Forest Service projections. It proposes more intensive forest management procedures—timber stand improvement, access roads, planting and reseeding, protection against fire, insects and disease and timber salvage. It also urges increased sustained yield production by farmers and miscellaneous smaller private owners who control 60 percent of U.S. commercial forest land.

Forest land provides an invaluable additional function of protecting soil and stabilizing water flow on the headwaters of river basins. It also will increasingly serve as a recreational resource. A substantial amount of marketable timber already has been withdrawn in many areas of the wilderness system.

Until there are strong programs to assist small timber owners to grow and market trees, the heaviest demands will be exerted on the timber companies and the public forests, particularly those in the Far West.

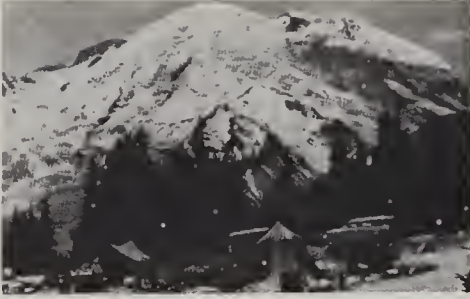
If more land is required for tree raising, there will be an increasing conflict with other land uses, particularly recreation and fish and wildlife.

The Public Domain

There are 180 million acres of residual federal public domain lands in the continental United States and an additional 270 million acres in Alaska.

These lands are administered by the Bureau of Land Management, within the Department of the Interior, under a maze of laws which date back to the 1860s and hamper modern multiple-use management.

The present and future value of public domain



Camping at Mt. Rainier, a memorable experience for many.

lands is enormous. Revenues from minerals leasing, sale of land and timber and grazing fees total \$3.5 billion since 1875, of which \$1.3 billion has been received between 1961-1965. The public lands not only are important for conserving land and water, but can be managed to help finance other needed federal resources programs.

The Classification and Multiple Use Act as a permanent program has resulted in decisions as to what land should be retained for the American people for economic and recreational benefits and what land should be reclassified for sale or exchange with other federal, state and local agencies.

The old Homestead, Desert Land and Mining Acts of 1872 no longer serves a modern purpose. No public domain land is left for agricultural settlement. The Mining Act simply keeps the Bureau of Land Management in constant administrative and judicial snarls. The Public Land Law Review Commission created by Congress in 1964 is to make recommendations on existing laws and policies by December 31, 1968.

The remaining 150 million acres of land intended for retention as a national heritage should be guarded well. It contains \$300 billion worth of oil shale rock, hundreds of millions of dollars worth of coal, natural gas, phosphates, uranium, timber and other resources. It also protects vital river headwaters.

Land for Mining

While mining does not account for a large proportion of total land use, placer, strip, auger and open pit operations in the United States have ruined or seriously damaged about 1.75 million acres of once beautiful land, of which 900,000 acres are in the Appalachian region.

Timber interests already had done immense damage to the land. The open pit coal mines of recent years have done an even more brutal job. They have blighted surrounding areas. Sulphur in the soil prevents anything from growing. Acid washes into the streams, killing all marine life. Landslides occur, tons of silt are washed into streams.

TVA has developed economically feasible techniques of reclamation of stripped land and at last is requiring such restoration as part of its new coal

supply contracts. Kentucky and other states have passed laws requiring mining operators to reclaim the damaged areas. The recent Interior Department report on strip mining recommends that all affected states enact strong laws requiring mine operators to restore the land. Cooperative state-federal programs are proposed to correct past damage and develop recreational and other uses in the recovered areas.

Land for Recreation

In 1960, recreation not only gave pleasure to millions of Americans who made 4.4 billion visits to all kinds of places, but generated a \$20 billion demand for associated goods and services.

Demand for recreation land and the recreation business are expected to triple by the end of the century—the former from 44 million to 134 million acres, the latter from \$20 billion to more than \$60 billion.

The two principal problems to be solved are competition in land uses, particularly in urban areas and rising land costs due in large part to speculation.

If the necessary land is found for the needs of 2000, it will leave a 50 million acre deficit nationally. This means that other lands—farm, timber, grazing—would yield to recreational uses if these were considered of higher national priority.

The slowness of federal and state governments to acquire recreational land makes possible the tremendous price escalations. The \$169 million provided by Congress for the Land and Water Conservation Fund is already short \$87 million in 18 areas. In 22 others, the Bureau of Outdoor Recreation does not know if the properties can be purchased with available funds.

The AFL-CIO actively supported legislation recently signed into law by President Johnson establishing a 5-year period, ending in fiscal 1973, during which royalties from continental shelf oil and gas leasing will be placed into the Land and Water Conservation Fund in amounts necessary for the fund to yield \$200 million annually for acquisition of recreational lands.

Proposals to get around land price hikes have included giving authority to river basin commissions to issue bonds for land purchases; stronger land zoning, both urban and rural; private foundations holding land by option until federal money becomes available; and special taxes for recreational land.

Workers have a tremendous stake in the use of the nation's land. Workers, in common with all other citizens, have both needs and responsibilities. The needs are for land which will be developed, managed and conserved to yield them the fundamentals of a good life in all of its aspects and to be handed to the next generation in just a little better shape. The responsibilities are those of citizens who will consistently work to help reach those goals.

It is necessary to understand the American condition no longer permits the luxury of doing with land just exactly what any person wills, regardless of how it affects others.

The Fight for Clean Air

When the right circumstances conspire, air pollution can turn into a deadly mass killer.

In 1930, there were 60 people killed when a deadly smog settled in over the industrial Meuse Valley in Belgium.

In 1948, the steel and chemical town of Donora, Pennsylvania, was visited by a fog and a temperature inversion which left 20 dead.

In 1950, a tank of poisonous hydrogen sulfide was accidentally released to the atmosphere from an oil refinery in Mexico City. The toll: 22 dead and 320 hospitalized.

In 1952, a "black fog" hung like a shroud over London for four days and took 4,000 lives.

Ten years later, both London and New York City suffered through serious smogs.

And in late 1966—as if to publicize the National Conference on Air Pollution about to open in the nation's capital—the elements conspired to form a temperature inversion over New York City. Preliminary estimates put the number of deaths at 80, a toll expected to rise when the death rate is checked against mortality tables over a longer period.

These dramatic instances of smog disasters serve

November 1966: Photo taken at 8:30 a.m. shows smog choking New York City as massive air inversion hit mid-Atlantic coast.



as periodic reminders that the city air we breathe is unclean. Air pollution is taking its toll of people's health every day in every city in the United States. It is a problem which most people are aware of by now and to which they seem to be adapting.

Unfortunately, it may take a major air pollution disaster to crystallize support for strong regulatory action.

President Johnson attempted to point up the critical urgency of the problem when he sent a special message on air pollution to Congress in 1967. The President declared:

"We are not even controlling today's level of pollution. Ten years from now, when industrial production and waste disposal have increased and the number of automobiles on our streets and highways exceeds 110 million, we shall have lost the battle for clean air—unless we strengthen our regulatory and research efforts now."

The superficial aspects of air pollution are widely evident. People are aware of the offensive smell, the dirt deposited on clothing and curtains, the corrosion of metal and stone, the lack of visibility on roads and the damage to bathing areas.

But the dangers from air pollution are far broader and more insidious. The longterm effects of air pollution begin to work on the human organs from the day of birth. Increasing numbers of Americans are becoming afflicted with respiratory conditions—everything from the common cold to lung cancer—which are aggravated by breathing polluted air.

One of the fastest growing causes of death in the United States is emphysema, a progressive breakdown of air sacs in the lungs caused by chronic infection of the bronchial tubes. In 1962, over 12,000 persons died of emphysema. Each month, 1,000 or more workers are forced to retire prematurely because of this disease.

Other diseases of the lungs and air passages which are worsened by breathing polluted air include bronchial asthma, chronic restrictive ventilatory disease and even the common cold.

The death rate from lung cancer has been rising. Research points to a variety of causes. However, the incidence of cancer is twice as high in urban as in rural areas and appears to be related to population density as well. This is the basis for speculation that air pollution may be a contributing cause of lung cancer.

The first public concern over pollution involved the smoke nuisance in the 1940s. Public indignation focused on offenders responsible for dirtying the community. Anti-smoke ordinances were adopted in such large cities as St. Louis and Pittsburgh. The change-over from coal-burning to diesel locomotives and the increasing use of natural gas for home and office space heating helped to reduce much of the smoke nuisance in many urban areas.

Now the concern and danger is only partially with smoke. The newer industrial processes and many of the older ones are expelling a wide range of gases and minute particles. These pollutants often overload the ability of the atmosphere to disperse them and they produce effects which are sometimes unpleasant, sometimes unhealthy and, on occasion, disastrous.

The basic causes of the air pollution problem are well-known. They involve an increasing population which is becoming more and more concentrated in urban areas. The U.S. population will grow to an estimated 225 to 250 million by 1980. About 200 million people will be living in cities.

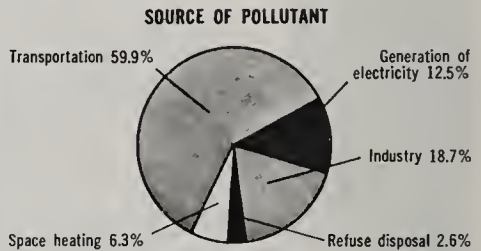
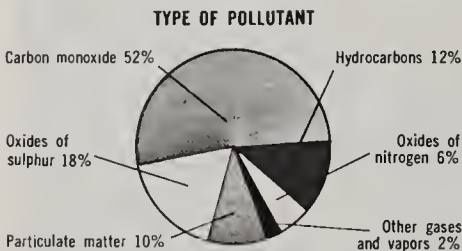
These urban area people will be driving more cars, consuming more electric power, buying more manufactured goods, creating more wastes. The overall result will be an ever-rising amount of air pollution.

The main trends are apparent.

In 1960, 60 million automobiles in the United States burned 40 million gallons of gasoline. By 1980, over 110 million automobiles are expected to be on the road, almost doubling the gasoline being burned and emitting most of the pollutants into urban areas.

More solid wastes are dumped each year, most of it combustible. In 1960, the per capita amount of combustible waste was 1,100 pounds. Even if the per

AIR POLLUTION IN THE UNITED STATES (125 million tons per year)



Source: "Waste Management and Control". A Report to the Federal Council for Science and Technology by the Committee on Pollution, National Academy of Sciences-National Research Council, 1966

capita figure does not increase, which is unlikely, this nation will be producing 175 million tons of combustible waste by the year 2000, enough to bury a city the size of Pittsburgh or Boston or Washington, D. C. under a 30-foot mountain of trash.

By 1980, use of electric power may have increased threefold over present demand. Most of it will be generated by fossil fuels—coal and oil—although nuclear energy will be rapidly moving to the fore in the next decade. As of 1966, generation of electricity is one of the major sources of air pollution.

The growth of industrial production—iron and steel, non-ferrous metals, chemicals, petroleum, paper and allied products—is expected to double or triple over the next decade or so. These are the major industries which share responsibility for atmospheric pollution.

There is also the clear danger created by a constantly changing technology. By the end of the century, the annual expenditure by industry and government in industrial-oriented research may reach as high as \$70-\$80 billion. Increased research and development already has contributed to the introduction of dozens of new materials, many releasing airborne contamination to the environment, the effects of which are yet unknown.

The principal pollutants released to the air total about 125 million tons per year at present, according to a 1966 report by the National Academy of Sciences.

Automobiles, trucks and buses powered by internal combustion engines are the major emitters of carbon monoxide, oxides of nitrogen and hydrocarbons. Generation of electric power by burning coal and oil produce most of the oxides of sulfur. Industrial production is the chief contributor to the atmosphere of particulate matter and miscellaneous pollutants.

The data clearly show that moving sources of pollution spew six of every ten tons of pollutants into the air. Thus the nation's motor vehicles constitute the number one air pollution problem.

Industry, including electric power generation, is the next greatest offender, contributing nearly four of every ten tons of polluting materials emitted.

People do not die immediately from foul air, even though it may affect their health adversely when pollution of the air they breathe is chronic, which is true in nearly every large city.

But sometimes a smog disaster strikes. Such disasters occur when there is a prolonged temperature inversion and takes place in localities where there is a great volume of toxic materials being emitted into the atmosphere from industrial emitters, automobiles and homes and offices burning soft coal.

A **"temperature inversion"** is a meteorological situation that occurs when the normally cool upper layers of air become warmer than ground air. In a situation when the air mass is not moving on the back of a prevailing wind, or rain comes to the rescue, the cool upper air stays put and prevents the dirty air at ground level from circulating up and out. Los Angeles is the prime example of a metropolis with

CITIES WITH MOST SEVERE AIR POLLUTION PROBLEMS — 1967

Five Areas Having Most Severe Problems

New York
Chicago
Philadelphia
Los Angeles-Long Beach
Cleveland

Five Areas Ranking Second in Severity

Pittsburgh
Boston
Newark
Detroit
St. Louis

Ten Areas Ranking Third in Severity

Gary-Hammond-East Chicago
Akron
Baltimore
Indianapolis
Wilmington
Louisville
Jersey City
Washington
Cincinnati
Milwaukee

Source: The National Center for Air Pollution Control, Public Health Service, Department of Health, Education, and Welfare.

a chronic inversion situation. But they can take place anywhere. When they happen suddenly and remain for several days where there is a great deal of emission of pollutants, people who are well get sick, the sick get sicker and some of the sick and some of the older people die.

The burden of principal pollutants is expected to double by the year 2000. Over the great metropolitan areas of the West Coast, the Great Lakes and other regions, inversions are expected to become more and more lethal, together with the kind of "ordinary" air humans breathe between inversions, which merely takes longer to infect individuals with chronic respiratory diseases and possibly lung cancer, but produces few headlines.

In the long-range view of the situation, the steady increase in the release of pollutants to the atmosphere, in addition to what is already there from natural and man-made causes, can work what may very well become a permanent change of the world's climatic

cycles. It is a well-known phenomenon that temperatures in large metropolitan areas are consistently warmer than in the countryside and fogs are more frequent. This is an example of local modification.

The bulk of the air resource is in a relatively shallow envelope six miles in depth (the troposphere). There are global, regional and local air movements within the troposphere which make up nature's ventilation system, modified by topography, climate and latitude.

If the mass of air pollutants continues to build up, the global capacity of the wind systems to disperse pollutants may be seriously impaired.

Thus modern man in the United States and other industrialized nations has created a menace. It lurks in the very air he breathes and takes an increasing toll in lives, health and the economy. It is seriously disturbing the delicate balance that has existed in the environment, of which man is becoming a ruthlessly disrupting factor. He worships at the shrine of personal cleanliness, creature comforts and new techniques while surrounding himself with an environment of ugliness, filth and poison.

What has been done in recent years to clean up America's polluted air?

The federal government did not move into the picture until 1955, when legislation was enacted creating a federal program.

The Public Health Service of the U.S. Department of Health, Education, and Welfare was authorized to conduct research on the problem and provide technical assistance to state and local governments.

The 1960 amendments to the basic federal act provided for a special study of motor vehicle pollution. The federal program under this law brought more scientific knowledge to bear on causes and effects. The public attention was becoming more aware that polluted air was a national problem, was damaging to the public health and welfare, and that control of many of the larger sources of poison was feasible.

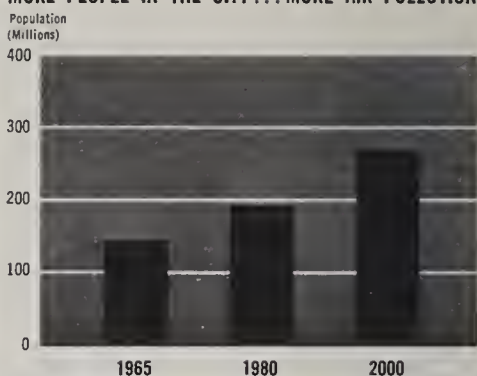
Although knowledge about the causes, effects, scope and control techniques was steadily advancing, there was little done by local, state or federal levels of government to clean up the air. The federal program was research-oriented. Outside of Los Angeles and the state of California, there were few local or state programs. Those in existence were basically ineffective.

The federal Clean Air Act of 1963, however, broadened the scope of the federal program. It authorized federal grants-in-aid directly to state and local air pollution control agencies to establish or improve their programs and empowered the federal government to take necessary action to abate interstate air pollution situations.

The Clean Air Act also expanded research, technical assistance and training activities of the U.S. Public Health Service. It directed the Service to do research and development on motor vehicle and sulfur oxide pollution from coal and oil burning in power generation and other industries, and to develop

10

MORE PEOPLE IN THE CITY... MORE AIR POLLUTION



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

criteria on air pollution effects on human health and property.

The 1965 amendments to the Clean Air Act authorized the Secretary of HEW to establish standards to control emissions into the air from new motor vehicles and to investigate and develop methods of controlling new air pollution problems.

In 1966, further amendments enlarged the grants-in-aid program to states and localities to assist in maintaining control programs. The Congress also established a three-year authorization of \$46 million for fiscal 1967 and \$66 million and \$74 million for fiscal years 1968 and 1969, respectively.

Between 1955-63, federal funds expended on air pollution control programs had risen slowly from \$2 million to about \$11 million a year. But in the 1963-66 period, the total rose to \$35 million a year.

What Have the States Done?

Sixteen years ago, the first state law dealing with air pollution was passed. Until 1963, when the Clean Air Act was passed, only 13 more states had enacted such laws. Since then, 32 more states have acted, so there are now 46 out of the 50 states with anti-air pollution statutes on the books.

In 1961, the budgets for state air pollution control programs totaled only \$2 million, of which California alone accounted for 57 percent.

By 1968, 39 states were budgeting an aggregate \$14.5 million, \$7.5 million of which was in the form of federal grants-in-aid, according to the Dept. of HEW.

While there was an improvement of state resources applied to the problem, the situation is still far from satisfactory in this respect. Moreover, there is wide variation among the states in the kind of agency assigned program responsibility, in standards and regulations, in enforcement and compliance procedures

and punishment of wilful offenders by fines, jail or both.

Although the Clean Air Act encouraged the formation of interstate compacts to aid in the control of air pollution, very few states have acted. New York and New Jersey were inspired to act because of the serious smog over the New York City metropolitan area. Illinois and Indiana are negotiating a compact and so are West Virginia and Ohio.

The New York-New Jersey compact, which is furthest along, seeks legislative authority to set air quality standards and to make and enforce regulations. An innovation in this proposed compact would provide for both local and federal representation.

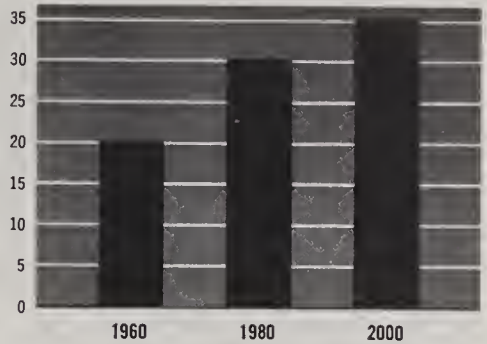
What Have the Cities Done?

Since the late 1800s, there have been many local smoke abatement ordinances passed by hundreds of communities, dealing with this aspect of air pollution as a nuisance. Beginning with Los Angeles, recent years have seen a greater community effort to attack poisoned air, not merely smoke.

By late 1968, according to the U.S. Public Health Service, there were about 133 city, county and multi-

MORE STEAM POWER GENERATION... MORE AIR POLLUTION

Levels of Sulphur Dioxide
(Millions of Tons)



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

jurisdictional air pollution regulatory agencies in operation and located in 35 states serving more than 63 million people.

The total 1968 budget for all these local administrative areas was about \$26.5 million, of which \$11.0 million was in federal grants-in-aid. This represented a sizable rise over the \$2.6 million budgeted in 1952.

The largest single local agency budget was that of Los Angeles County—\$3.7 million. Control agencies in California made up 38 percent of total 1965 local air pollution control budgets in the nation. The seven largest agencies made up 58 percent of the total local air pollution control budget for the nation.

While the towns and cities are now doing more about the problem than a decade ago, much of the larger urban areas still lack programs. There are manpower problems, both in funds available to hire personnel at adequate salaries and trained manpower. The U.S. Public Health Service estimates that at least a fourfold expansion of programs is required to do a reasonably good job in terms of money and staff.

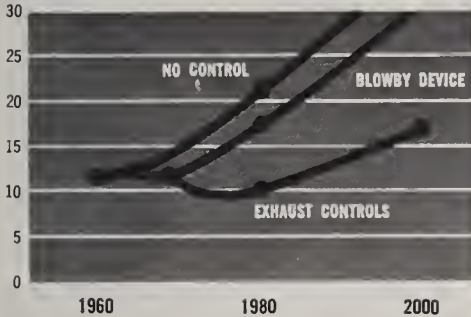
Moreover, there is a lack of definition of the full range of pollutants to be monitored and controlled. There is less than adequate support by local officials for a sustained all-out air cleanup effort. As with the states, regulations are too permissive, enforcement is weak or lacking and long-range planning is neglected.

The Air Quality Act of 1967 took the nation another step toward cleaning up its air. It directed the Department of HEW to map out the broad atmospheric areas of the United States and to designate air quality control regions crossing state lines and based on meteorological, technical, social and political factors.

The newly-established National Center for Air Pollution Control administers the federal program and is directed by the 1967 Act to develop and publish air quality criteria, which defines the extent to which dirty air is harmful to people and living things and damaging to property. The National Center is also

MORE AUTOS MEAN MORE POLLUTION DESPITE CONTROLS

Levels of Hydrocarbons
(Millions of Tons)



Levels of Carbon Monoxide
(Millions of Tons)



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

directed to develop information on control and prevention of air pollution.

With federal criteria, the states are expected to develop air quality standards and place them into effect in the air quality control regions, their plans being subject to review by the Secretary of HEW before approval, and before federal grants-in-aid can be made to state and local control agencies and to regional air quality programs. If the state fails to do an adequate job, the Secretary of HEW can institute abatement action. The Act also allows federal intervention to abate crisis situations which threaten.

In addition, the 1967 Air Quality Act expends federal programs regulating motor vehicle pollution by providing federal grants to states to develop adequate inspection programs, and provides for registration of fuel additives and intensified efforts to control air pollution from federal facilities.

The Act enables setting up various advisory groups, including a 15-member Presidential Air Quality Advisory Board, and special studies on jet aircraft emissions, the need for national emission standards and manpower and training needs.

The National Center for Air Pollution Control has designated atmospheric areas of the 48 continental states—two on the Pacific Coast, the Rocky Mountains, Great Plains, Great Lakes-Northwest, Mid Atlantic Coast, Appalachian and South Florida areas. It is now in the process of defining air quality control regions.

Air quality criteria for particular matter and sulfur oxides are supposed to be ready for publication this year, that for carbon monoxide by late 1968, photochemical oxidants and atmospheric fluorides in 1969, with preliminary work under way on other classes of pollutants. New and stiffer emission standards on motor vehicles were published by HEW earlier this year for 1970 models.

By these means, it is possible to move in with federal, state and local programs to control poisoned air emitted from stationary sources, factories, power stations, oil refineries and the like.

One of the large national problems posed by emissions from motor vehicles is that while it is possible to reduce pollution, the continually increasing numbers of cars will result in the total amount of pollutants increasing in direct ratio.

Unfortunately, Congress did not see fit to retain the provision in the 1967 Act calling for a research program in alternative low-pollution vehicle systems, such as the electric-powered car or an improved steam driven vehicle or a gas turbine engine.

The problem with respect to electric cars is to find an energy source, either a battery or fuel cell which operates on chemicals, which will enable faster pickup, higher speeds and longer periods between refueling.

The problem with respect to steam driven vehicles—slow warm-up time, high water consumption and explosion hazards—can be solved but will require additional engineering refinements and reduction of high costs per model.

The use of gas turbines must first overcome high manufacturing costs and high fuel consumption.

While industry is grudgingly accepting the disagreeable inevitability that there will be some kind of control over air pollution, it wants a major voice in setting the terms.

Industry wants federal activities restricted to research and development, and it seeks federal tax writeoffs as well as state and local financial incentives for air pollution control equipment.

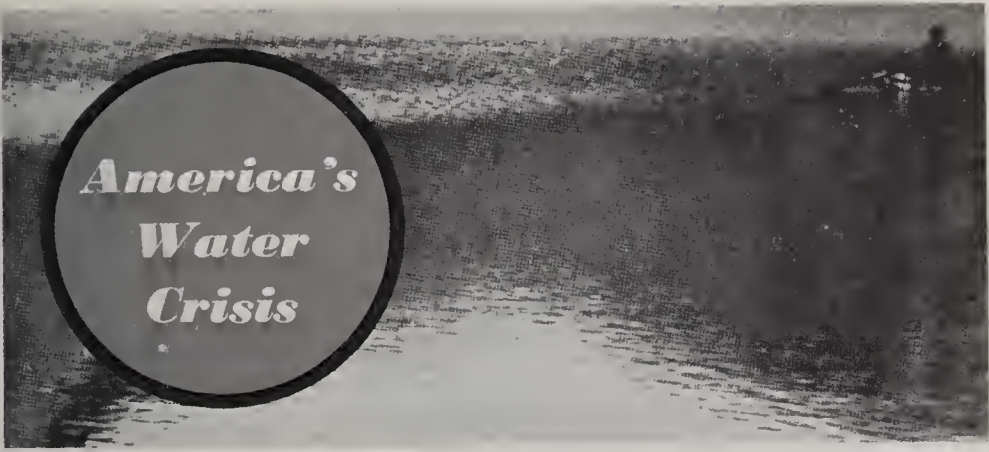
Recently, the chairman of the board of Humble Oil Refining Company said to a meeting in Houston, Texas, that if industry did not voluntarily clean up its own mess "... in the near future our actions in this area will be spelled out by congressional legislation."

The AFL-CIO, in its 1967 policy statement on air pollution, found that while the 1967 Act was a slight gain in the fight for clean air, the weaknesses of activities at all levels of government "must be rapidly corrected if the new and expanded programs are to have any real effect."

Organized labor urged these amendments to the Air Quality Act: (1) Establish national emission standards governing the release of pollutants into the atmosphere from stationary sources. (2) Strengthen and streamline federal enforcement procedures. (3) Federal research to assist in developing efficient electric powered motor vehicles as an aid in reducing the largest and most rapidly growing source of pollution; (4) A thorough evaluation of the effects of the expansion of nuclear power on air and water pollution is needed.

The policy statement also urged participation of all AFL-CIO affiliates in helping establish strong state and local air quality programs and opposition to any tax incentives to industry to help pay for costs of controlling air pollution in its own operations.

The nation is only in the beginning of a long journey toward cleaning up its dirty air. The fight will be lost or won over the decision made by citizens in the big cities, the towns and the villages: Have the people had enough foul air and are they ready to demand a tough and sweeping program to clean it up?



America's Water Crisis

The continental United States is favored with a general abundance of rainfall and yet suffers from a growing crisis in water. Unless the nation moves soon towards rational planning in the conservation and use of its water resources and acts to end man-made pollution, the economic and social consequences will be enormous. Regions of the nation now enjoying rapid growth will find they have built on sand; as they outrun usable water supplies, economic decline will set in. And social and political problems will follow.

Many people now easily perceive the problem. The Middle Atlantic and New England states have been hit by a long cycle of low rainfall. Short water supplies are forecast in the areas of the Upper Missouri, the western Great Lakes, the Upper Arkansas-Red River, the Upper Rio Grande and Pecos, the Great Basin, the Colorado River Basin and western Gulf region. Severe shortages lie ahead in the Pacific Southwest.

In recent years, the easy assurance that the nation had plenty of water has been dealt a fatal blow by the postwar population upsurge, the concentration of more and more people in supercities, the expanding uses of water, the proliferation of human and industrial wastes reducing the available clean supplies and by the surging demand for outdoor water-based recreation opportunities.

Grave concern was expressed in the 1961 summary report of the Senate Select Committee on Natural Water Resources:

"... the situation with respect to the nation's water resources indicates that serious problems lie ahead. Adequate measures must be adopted to deal with situations which can now be foreseen to make sure that shortages of water will not control the future destiny of the nation."

In comparison with most other nations, the United States is blessed by a general abundance of water. An annual average of about 30 inches of precipitation—in the form of rain and snow—falls on the surface of the 48 continental states. This produces a runoff of about 4.4 trillion gallons a day.

With this kind of endowment, why is there a growing water problem—local, regional and national?

In the first place, nature takes most of the 4.4 trillion gallons of precipitation by processes outside human control. After evaporation from water and land surfaces and withdrawals by vegetation and for human use have taken their toll, there remain only about 8 inches of the 30 inches of precipitation, or a runoff of 1.1 trillion gallons per day of water that can be considered as potentially usable. It is a fixed amount.

But even the 1.1 trillion gallons per day is not available for human uses in even proportion across the country. The basic reasons for this are:

1. Large variations among regions in the amount of annual precipitation.
2. Natural and man-made pollution.
3. Failure to provide facilities for development and conservation of water for present and future demands.

After all these factors have been assessed, the U. S. does not have an available supply of more than a trillion gallons of water a day, but only 515 billion gallons a day.

In 1900, Americans used 8 percent of this supply. By 1960, they were using 60 percent, and by 1965, nearly 70 percent. Over this period, daily per capita use increased at twice the rate of population growth.

Sometime in the late 1970s, there will be in excess of 225 million Americans, of whom 165 million



will be depending on surface water supplies. More than 75 percent will be living in vast supercities occupying hardly more than 1 percent of the nation's total land area. At least 200 million persons will be served by sewage systems. Up to 70 percent will probably be located in the 31 states east of the Mississippi River. Hardly more than 5 percent of the population will be supported by direct agricultural production. Longer range water requirement forecasts indicate a possible withdrawal of nearly 900 billion gallons a day by the year 2000.

According to many water experts, the nation's water requirements will climb steeply beyond the 515 billion gallons now available. Recent estimates suggest that by the next decade water demand may aggregate well over 600 billion gallons per day.

To bring the problem into common focus: Presently a one-family house with four people living in it uses 550 gallons of water a day; a large apartment complex with 300 apartments housing 1,000 people requires 50,000 gallons a day; a 20-story office building with 200 persons a floor will use 120,000 gallons of water daily and a 400-bed hospital about 100,000 gallons a day.

To produce a ton of paper out of pulpwood, 38,000 to 184,000 gallons of water are required; a ton of processed aluminum needs 32,000 gallons; a ton of synthetic rubber, 660,000 gallons; to refine one gallon of crude oil, 44 gallons of water are needed. Each automobile coming off the assembly line has been the product of a process using 16,000 gallons of water and each new truck or bus, 20,000 gallons.

Whereas in 1954 nearly 60 percent of total U.S. water requirements were for irrigation, it is indicated that by 1980 this use will require less than one-third

of total national requirements. Nearly two-thirds of national needs will fall in the area of industrial uses (steam power cooling and manufacturing).

It is perfectly clear that the increasing population, the jamming of people into a few great metropolitan areas, the expansion of water use stimulated by revolutionary changes in technology all combine to exert a major drain on water supply.

The water supply itself is governed by the impersonal operations of the hydrologic cycle. Simply stated, the hydrologic cycle is the eternal circulation of water from the mother reservoir, the ocean, to the atmosphere, then over land and back again to the ocean through either surface or subsurface flows.

All water resources projects affect the water cycle in some fashion. Thus a comprehensive rather than single-purpose approach to such planning is indispensable.

The essential of a dependable water supply is that it is available when needed, in the amount needed and of a quality which permits the widest possible range of human uses.

The first difficulty encountered is variability. National averages are misleading, as water short areas can grimly testify.

While the U.S. as a whole has a yearly average of 30 inches of precipitation, there are large deviations between geographic regions.

Annual precipitation rates are equal to or greater than the national average from the Mississippi Valley eastward, in the Rockies, Sierra and Cascade mountain ranges and along the Pacific Coast from Washington to south-central California.

From the Great Plains to the eastern slopes of the Rockies, precipitation becomes progressively less than

the national average. The regions of the Great Basin between the Rockies and the Sierras and the southern California coast range from arid to desert.

Moreover, in no region does rain and snow fall in symmetrical patterns over the days of the year. There are rainy seasons and dry seasons. There are climatic cycles, such as the drought that has plagued the eastern United States for the past several years. In reverse, there are periods of extraordinary precipitation which result in destructive floods.

Another ominous dimension has been added to the equation by the increase in man-made pollution of America's waters. Plenty of water flowing in a stream means nothing if human and industrial waste and silt befoul it and reduce the artery's function to carrying filth and contamination downstream to the next community. Pollution threatens all other uses. Every major river basin and now even the Great Lakes are heavily polluted. Not one supply has been cleaned up.

In order to develop and obtain optimum use of the nation's 1.1 trillion gallons a day water potential, it is necessary to see it as a single problem.

The time is far overdue to employ the funds, the lessons learned and the fruits of all possible research on a nationwide scale to improve use of water on the land, to control it in streams, rivers and lakes and drastically to enhance its quality.

To improve the use of water on the land involves not only decisions by various levels of government but, more importantly, by many millions of individual landowners both on the farm and in towns and cities.

To control streamflow involves both surface and groundwater. The latter cannot be looked at entirely as a new source of supply, even though the U.S. underground water resource has not been adequately determined. It is an element of the same supply and its discharges support the dry season flows of most streams and rivers.

A controlled stream is one in which the annual runoff has been equalized by means of catching water in systems of large main stem and smaller headwater reservoirs when rainfall and snow melt are heaviest. This kind of system aids in reduction of flood damage downstream.

When the dry season, or a longer dry cycle occurs, stored water is released from the reservoirs behind the dams. The waters are used downstream for many purposes: navigation, irrigation, municipal and industrial water supply, generation of hydroelectric power and dilution of human and industrial wastes. Reservoirs are increasingly operated for recreation and fostering fish and wildlife resources.

The same principle of refilling and drawing down underground reservoirs should prevail as that governing operation of surface storage. Programs are needed to achieve their artificial recharging in order to prevent the kind of depletion of underground water tables that has taken place in the Plains States, in Arizona and in California.



The Columbia River public power complex serves as a model in the multiple-use of valuable water resources.

The importance of groundwater, particularly in areas of considerable precipitation, is that it can often be used as an alternative to development of surface water storage. Often planners are faced with the difficulty and high cost of obtaining surface reservoir lands in heavily populated areas because of competing land uses.

There are water surpluses in some regions and deficits in others. Transfers from surplus to deficit regions have been undertaken on a considerable scale, particularly in the western states.

In 1965, the Interior Department proposed a \$3 billion engineering plan involving the diversion of surplus water from the Columbia Basin to the Lower Colorado River, and reducing the call of California on Colorado River waters by transporting water from the high precipitation north to the arid and heavily populated south. This proposal immediately encountered a storm of opposition from the Pacific Northwest and from California.

On an even more gargantuan scale is the so-called Western Water Development Plan, originally a concept of a private engineering firm. This international, interregional undertaking would cost in the neighborhood of \$80-\$100 billion. It would divert Canadian rivers now emptying into the Pacific and Arctic Oceans so that a major portion of the water would flow into the Far West, thence into Mexico. A system of canals and lifts would pour additional Canadian surplus waters into the western Great Lakes.

Among the uses of water made available by a controlled river system are those which require no withdrawal or depletion. These include out of door recreation, commercial and sport fishing, disposal of human and industrial wastes within the normal capacity of the streams and creation and maintenance of navigation channels.

Water for waste disposal is among the most ancient of its uses by people. Under present day conditions, the volume of water is not reduced by the dumping of wastes, by siltation, acid drainage or raising the temperature by steam power generation. What is reduced, and with increasingly serious results, is the

quality of the water. On any major stream, water must be used again and again. That is why control of water quality must proceed hand in hand with securing and controlling an optimum supply.

In addition to "in-place," or non-consuming water uses, there are "withdrawal" uses for domestic, municipal and industrial purposes, for steam power generation and for irrigation.

These are the drafts upon water which create shortages as they grow and are the first to be affected by scarcities. They "consume" part of the withdrawn water; that is, some of it evaporates and some is used by soil crops and other vegetational cover. Some percolates down into the underground and is received by the river somewhere downstream at a later time. Thus direct returns to the river are reduced by the amount of such consumption.

At present, the highest rate of "consumptive use" among any of these withdrawal functions is for irrigation. In arid areas of the West, this approaches 60 to 80 percent of the withdrawn water and more than 40 percent of total national "consumptive use."

Three major river basins illustrate the particular problems faced in developing full and comprehensive use of water resources.

In the 300,000-square mile area of the northeastern United States only recently affected by a long drought, normal annual precipitation is considerably in excess of the national average. The runoff from its streams and rivers is about 300 billion gallons a day, an amount not much less than the present aggregate U.S. daily water use.

Why was there a water crisis in the Northeast? Why can it happen again?

There are two major reasons: A historical failure to provide adequate storage facilities to serve the rapidly-increasing urban population and an almost unchecked growth of pollution.

In New England, the Merrimac, Connecticut and other rivers have been reduced basically to two uses: for human consumption and as canals to carry human

and industrial wastes downstreams. Failure to provide adequate storage forced one New England town after another to ration water during droughts or to suffer heavy flood damage during heavy rains.

New York City uses 1 billion gallons of water a day. It obtains most of its supply from reservoirs in the Catskill Mountains and from its allocation of Delaware River water.

In 1965, New York's share came close to the total runoff of the entire Delaware River system, which also had to meet the requirements of heavily populated New Jersey and Pennsylvania areas.

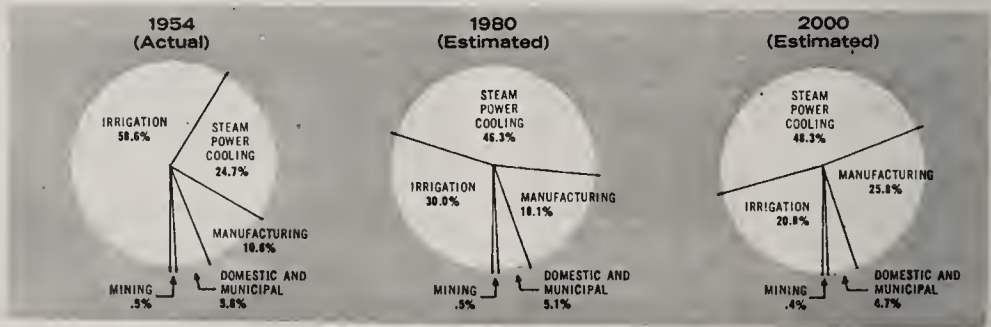
While the inefficiencies and wastes of New York City's water system were being argued, and the Department of Interior's task force was attempting to assist the region on an emergency basis, the Hudson River was carrying almost three times the water needs of the New York City metropolitan area right past its doorstep. But this flow was too heavily polluted to be used. Moreover, the abundant groundwater resources in adjacent New Jersey have been mapped out and developed in only a haphazard fashion.

This situation is similar to what is found on the Merrimac, Connecticut and other New England rivers. It can very well happen on the Potomac River if another abnormal drought cycle should come and the population of Washington's metropolitan area continues its rapid growth. At best, it will not improve for many years.

The second case is the Lower Colorado River, serving the Pacific Southwest. It drains some of the most arid land in the nation, which nevertheless is its fastest growing region. The 16.5 million acre-feet of available water was ample for the 1940 population of 5 million people, but by 1960 there were 11 million people living there. The Lower Colorado system now falls short of meeting present annual requirements by 1.3 million acre-feet.

By the end of the century, the region's water needs are expected to exceed the full carrying capacity of the Lower Colorado by an additional 7 million acre-

TRENDS IN THE USE OF WATER RESOURCES (Percent of Total Requirements)



Source: Report of Senate Select Committee on National Water Resources, 1961.

feet needed to meet the requirements of the 30 million people expected to be located in the Pacific Southwest by the year 2000. For the first time in American history, population pressures have exceeded the water resource potential of an entire major region.

The Senate and House in the 90th Congress reached a compromise agreement on legislation authorizing the Central Arizona Project. This legislation provides for the physical works to convey Arizona's allotment of water from the Colorado River to Arizona, accedes to conservationists' opposition to any dams in the Grand Canyon area and to the Pacific Northwest states by prohibiting any government studies relating to diversion of water from other river systems to the Pacific Southwest for 10 years.

This only postpones final resolution of the issue arising out of sharing western water supplies. The Senate and the House agreed to create a 7-man National Water Commission. If this Commission is worth its salt it will have to make controversial recommendations regarding the nation's water supply and use situation, including supply, priority of uses, geographical apportionment and quality. This includes interregional diversion of water from surplus areas to those of short supply.

The long-term economic future of the fast-growing Pacific Southwest region rests on acquisition of water supplies beyond the carrying capacity of the Colorado River system. The economic feasibility of large-scale desalination plants on the Pacific Coast has now been thrown into question by escalating costs. Future importation of water from elsewhere therefore cannot be ignored.

The Tennessee Valley is the third illustration. Since 1933, TVA has built main stem and major tributary dams which have controlled and equalized the flow of the river. The Authority has instituted and stimulated better farming and reforestation practices. It is moving into the upstream tributaries to assist local groups to do the same kind of job on a smaller scale as TVA had done to solve the river basin's larger water problems. TVA and the seven valley states are jointly undertaking to abate pollution of the waters of the Tennessee and its tributaries, assisted by the federal government's grant-in-aid program under the Water Pollution Control Act.

But the TVA has made sure that full control of its 22.5 million acre-feet of total runoff during a dry year will meet the quantity element of the water equation.

During the peak period of water drawn upon in the region between July and September, the Tennessee river system has a dry year runoff of 7.6 million acre-feet. TVA forecasts that against this dry growing season runoff, a total of only 692,000 acre-feet will be withdrawn, of which 129,000 acre-feet would be lost from consumption.

The Pacific Southwest situation suggests the immediate need to take another look at expansion of irrigation, with its large water loss from evaporation and transportation. It should be weighed against the

alternative value of shifting priorities to meet the tremendous needs of municipalities and industry. It also suggests the need of largescale water importation and expanded desalinization programs in certain coastal areas.

In the Northeast, the first order of business is to clean up the rivers, streams and estuaries while planning ahead for necessary surface and groundwater storage to meet low flow and drought periods and to achieve greater efficiencies in use.

The Tennessee River Valley is not without its problems, but its water supply for decades is safe, a basis for orderly economic growth. With adequate quality control of pollution by the large and small communities in the Valley, there should be relatively clear sailing ahead in the foreseeable future.

In 1907, President Theodore Roosevelt called together his newly formed Inland Waterways Commission, writing "... the time has come for merging local projects and uses of the inland waters into a comprehensive plan designed for the benefit of the entire country. Such a plan should consider and bring together and coordinate the points of view of all users of water."

The following year, his National Conservation Commission took the first inventory in the nation's history of the resources stockpile: water, forests, land and minerals. The key recommendation of this Commission has been the goal of all water development schemes since that time:

"Each stream is essentially a unit from its source to the sea; . . . the benefits of a system of waterways improvements will extend to all the people . . . in the use of natural resources the independent states are interdependent and bound together by ties of mutual benefits, responsibilities and duties."

The application of the principle, although given lip-service through the years, has been uneven at best. Out of it have come the comprehensive, multiple-purpose developments, with the river basin as the unit of operation pioneered by the TVA. Other river basin developments of narrower scope but substantial achievements have taken place on the Columbia, Colorado and Missouri Rivers, in California's Central Valley and the Southwest. But other important regions have been left out.

Since 1907, some twenty-odd national commissions have studied the problem of water. It is ironic that their recommendations have all paid homage to the principle of comprehensive, multiple-purpose river basin development. All have agreed on the relationship between water supply, population and economic expansion, on the need for sound planning and on the expanded reliance on research.

Increasingly since World War II, the criteria of comprehensive, multiple-purpose river basin development of clean water has enjoyed a national consensus.

Moreover, recent surveys of the national water situation have stressed its urgency, caused by the sheer increase in aggregate and per capita demand. In-

creasing population, urbanization and the multiplying needs of the technological revolution aggravate the situation. This makes it even more imperative that, within the general comprehensive approach, wise and far-seeing planning, economic and engineering evaluations and well directed research be the instruments to achieve practical solutions.

Enough clean water for everyone is not an end in itself. Water is for people, for their basic needs of survival and for the promotion and building up of their economic welfare, their living standards, their recreational and esthetic enjoyment and the protection of their health.

The benefits of a comprehensive approach have been frustrated and diluted by compromise. Special interest drives, shortsighted budget paring, parochialism and jealousies of states and localities, overlapping and conflicting federal jurisdictions all play their parts in complicating the basic difficulty.

Yet America's water experts have concluded that there is enough water to go around for many years to come, if . . . and it is a big if.

The key question is whether government at all levels, industry and the citizenry are prepared to rapidly move forward to plan, organize and carry out comprehensive programs to achieve full use of the nation's water potential and are willing to foot the bill.

Although the Kennedy and Johnson Administrations have become aware of the nation's water dilemma and have developed a number of programs to work toward its solution, what has been done thus far is simply inadequate to the challenge. This is true not only in the financial effort of the federal government for both longstanding and new programs, but also in the failure to reorganize and streamline those federal resources agencies with responsibilities in the field of water and associated land resources.

It is only fair to state, however, that between 1961 and the present, the volume of conservation legislation enacted has been without precedent.

Programs enacted, all of which have received the endorsement and active support of labor, include the Wilderness Preservation Act; the 1961, 1965 and 1966 amendments to the Water Pollution Control Act; the Land and Water Conservation Act; expansion of the federal water desalinization program; the Water Resources Planning and Water Projects Recreation Acts signed by the President in 1965. Amendments

to the 1965 Housing Act liberalized federal matching grants to communities to acquire land for open space and supplemented the federal grants in aid program for communities to build and improve sewage treatment plants under the Water Pollution and Community Facilities Acts.

An amendment to the Rivers and Harbors Flood Control Act of 1965 may well be its most important part, as it authorizes the federal government to establish plans to develop major comprehensive water development plans for the eastern United States.

In addition, new national parks, lake, seashore and other federal recreational areas have been created, with still others being proposed or on their way through the legislative mill of Congress.

Yet the federal, state and local governments and private industry are merely pecking at the pollution problem. The federal government is merely pecking at the problem of full development of surface and underground water resources and securing additional supplies from a strategically placed desalting effort.

It is of utmost importance in the kind of society which labor seeks that all Americans have enough clean water to drink, to sustain their jobs, their businesses and farms, their communities and their recreational enjoyment. National policy should clearly state that every American in every region must now and in the future be assured of a dependable supply of clean water for all uses. A coordinated effort by the federal government, with the assistance and cooperation of states, localities, private industry and all elements of American life can achieve this goal.

The AFL-CIO regards as of immediate importance the necessity of substantial increases in federal grants-in-aid to assist towns and cities to construct sewage treatment works and modern sewage disposal systems, stronger federal enforcement procedures without present procedural delays and more adequate preventive measures against industrial pollution.

Labor also has urged that well directed, adequate research and manpower programs be geared to the overall water resources effort and that the soil conservation program be revitalized.

Are Americans willing to shoulder the costs of such a program? The costs will be enormous.

In 1961, the Senate Select Committee on National Water Resources forecast that providing another 300 million acre-feet of active water storage capacity



Man-made pollution. Industrial waste can be seen pouring into Lake Erie. It will cost \$20 billion to clean up a dead area of 2,500 square miles deprived of oxygen by wastes from cities like Detroit, Ashtabula and Toledo and from Canada.

between 1954 and 1980 would cost \$11 billion (mostly federal money), and 127 million acre-feet additional storage by 2000 would require the investment of another \$6 billion.

Various estimates of the future costs of an adequate water quality program for the nation have been made since 1961, when the Select Committee projected a possible \$35 billion by 1980 and an additional \$39 billion between 1980 and 2000.

In 1968, the Interior Department's Federal Water Pollution Control Administration estimated that the capital costs of constructing water waste treatment and sewage interceptor plants in the U.S. would amount to about \$8 billion between 1968 and 1973. In addition, it indicated in another study, up to an estimated \$48 billion might be required for the nation to construct separated systems of storm and sanitary sewers.

Such forecasts can only be rough approximations, but it is plain that the capital investments needed to clean up and store waters for the American people between the present and the end of the century will be enormous—possibly on the order of \$75 billion or more.

The prevailing federal annual outlay on all conservation programs was about \$3 billion in 1968. Contrast this with the water quality needs of New York State alone—\$1.7 billion and an estimated \$20 billion if Lake Erie is not to die.

Since enactment of the 1965 Clean Water Act, progress has been slow, spotty and filled with controversy. The Congress amended the Act in 1966, established a \$3.4 billion federal grants program to assist the municipalities to build waste water treatment plants for the period fiscal years 1968-71, increased the federal individual matching share and took the statutory ceiling off the total amount that could be granted localities under the formula. For fiscal 1968 and 1969, however, the President's budget requested appropriations for only slightly more than one-half and one-third of the authorizations for those two years, respectively.

The Federal Water Pollution Control Administration has been in a more or less continuous altercation with various states required under the 1965 Act to set water quality standards within their boundaries meeting federal criteria. Although all states were required by the Act to have their proposed water quality standards approved by the Interior Secretary not later than June 30, 1967, only 31 had been approved as of May 1968.

The irresolution of the federal government in using its enforcement powers to move decisively into areas of interstate pollution has helped to make bad situations, such as those around Chicago, Lake Erie and other areas, even worse.

The administration of the Clean Water Act, particularly in its grants program, has been hampered by jurisdictional overlaps with programs conducted by the Department of Housing and Urban Development, Economic Development Administration, Farmers Home Administration and the Appalachian Regional Commission.

A vast outpouring of public funds will not in itself do the job. By drawing on the experience and lessons

learned by TVA and other regional organizations, comprehensive plans can be readily prepared to achieve necessary control of surface and groundwaters to improve water supplies.

Systems to achieve quality control of water, however, have not as yet been devised, even in local situations, let alone river basins.

It is becoming more and more necessary to devise such systems operating over entire river basins, using all the implements of research, systems analysis and advanced management techniques. The present antiquated approach of relying solely on piecemeal, local waste treatment just will not produce results.

Beyond the area of the water problem, however, is a broader question which underlies the capabilities of meeting this and other serious situations spawned by population growth and concentration and rapid social, economic and technological change.

Presently constituted political instrumentalities, federal, state and local, are finding it more and more difficult to respond effectively to the massive, complex and increasingly interrelated human problems of the last half of the 20th century. The effectiveness and speed with which this is recognized and dealt with by the nation will in great measure determine the success and efficiency of public and private resources committed to the water sector.

As a beginning, labor has urged that the federal resources agencies be reorganized and streamlined to eliminate waste, duplication and jurisdictional infighting. Special interests have too long pursued narrow goals in agencies like the Bureau of Reclamation, Army Engineers, Fish and Wildlife, National Parks, Public Health, Soil Conservation and Forest Services.

At the federal level, there is need for sound, businesslike management control over investments for resources development and other capital investments. These should not be considered as current expense items in budgeting, but carried as capital investments in a modern federal capital budget.

If the eastern drought should return, millions more people will have their water rationed. If there is drought in the Southwest and Plains States, farmers and townspeople will see their pumps sucking sand and mud instead of water and they will be importing it from a more fortunate area in tank cars.

Along the streams that are lined with factories, steam electric plants, packinghouses and communities, small and large waters will run with waste and silt, turn their uglified surfaces to the sky and fill the air with stench.

This is the way it will be, and worse, just as long as the nation allows it and is unwilling to pay the full price to put its water resources in order.

A TVA booklet calls water "nature's constant gift." This gift is deserved only if it is cherished, preserved and wisely used. The time for Americans to be worthy of it is now.



The Energy Revolution: *Peril and Promise*

The energy revolution has transformed America. One has only to contrast the society of Washington and Jefferson with that of the 1960s. Energy has been developed in such varieties and in such abundance that it has changed the daily life of every person. It has at times been more decisive than ideologies and it has often left economic and social institutions obsolete as man has continued an apparent conquest of his physical environment.

The change has been dramatic. A century ago, the muscle power of men and domestic animals supplied 94 percent of the world's energy needs; fossil fuels like coal and oil supplied only 5 percent. Today the situation is reversed. The industrialized nations now obtain 93 percent of their energy needs from coal, oil and natural gas; the muscle power of men and animals provides only 6 percent and waterpower contributes 1 percent.

In the past half century, the burdens of darkness, discomfort and drudgery have been replaced by light and heat and comfort. Candles have given way to electric lights and wood fires for cooking have been replaced by gas and electricity. The plentiful supplies of energy in the home, on the farm and in the factory have created producing and consuming capacities beyond the dreams of utopians. Energy has laid the basis for transportation and communications which have made this nation the most mobile society in history.

The changes set loose by the energy revolution will doubtlessly accelerate. The U.S. population is expected to exceed 300 million by the year 2000. Thus

there will be an increase as well in the current problems of promoting economic growth and achieving full employment, of raising living standards and maintaining a costly defense program, of protecting the environment, of exploring outer space and aiding the developing nations. The present stupendous demands on energy resources, raw materials and land and water shrink when compared to the soaring demands foreseen for the next four decades.

About five-sixths of all the fossil fuels—such as coal, oil and natural gas—consumed since the beginning of their use have taken place over the past 60 years. The total consumption of all such fuels used before the year 1900 would not last 5 years at today's rate of consumption.

The pressure of more and more people and their needs is the basic factor here and throughout the world in attempting to answer the inevitable question: Will there be enough to go around?

Here in the United States the immediate question is whether we have sufficient supplies of energy to sustain a rate of economic growth necessary to accomplish the essential goals of America's domestic and foreign policies.

One thing is sure. With all of man's ingenuity and adaptability and thirst for more and more knowledge, he still must work within the limitations imposed by the earth's natural environment.

Reverend Thomas Malthus of England postulated over 160 years ago that population growth tended to



outstrip its means of subsistence. In his view and that of latter-day Malthusians, this built-in imbalance was periodically "corrected" by economic depressions, poverty, disease, pestilence and famine.

Malthus did not foresee the decline in the birth-rate in industrial countries which has taken place. He did not foresee the growth of a new agricultural technology which has resulted in immense increases in per acre yield in spite of only a moderate increase in land under cultivation. Nor did he foresee the new sources of energy, together with increasingly efficient methods of discovery, extraction, processing, transportation and use. Science has released humanity from the despairing destiny implicit in Malthus' philosophy.

But there are warning signals. Most people in the world still go to bed hungry. Famines still sweep countries like China and India, with a major famine feared in India within the next decade.

In the United States itself there is a blind and optimistic reliance on the ability of science and technology to find all the answers to the problem of supplying enough energy, food, water and raw materials to meet the voracious demand of an increasing population and an expanding economy.

Often overlooked is the fact that the effect of the energy revolution is at variance with nature's scheme of conservation of raw materials and energy which had endured for millions of years before the impact of the late-comer, man, began to be felt.

And, too, the more the environment is modified by human beings, the more interdependent human institutions become and so the more easily they can be disrupted.

The history of the heedless exploitation of natural resources in building up this nation to its 20th century greatness is well known. Yet topsoil laboriously built up through centuries is still exposed by the bulldozer, the axe and power saw, or by the farmer, to be washed away by the rains or scattered by the winds. In many

areas the water cycle has been destructively disrupted. Human and industrial wastes continue to befoul streams and rivers. Clean air is now being laden with contaminants from motor vehicles, industrial processes and coal-fired power plants. Poisonous radioactive fallout still drifts across continents as a result of previous testing of nuclear weapons in the atmosphere.

As biologist Dr. Barry Commoner said in a recent speech: "... the vast new powers of science carry with them equally vast and equally new responsibilities." Commoner urged that scientists, citizens and government administrators work together to "find the means to preserve . . . the water, the air and the soil and to conserve the resources of this planet for their proper service to the welfare of man."

It is imperative that the new energy revolution be for people. Unless it is guided by well-defined and progressive national economic and social policies and goals, together with all necessary social controls, the new age of energy abundance will not mean a more satisfactory life for most people nor can it meet their yet unfulfilled needs and aspirations.

Trends in the Use of Energy

An epic story lies behind the cold statistics on the uses of energy in America. It is a story of how man found a nation richly endowed with coal, oil, natural gas and falling water and used these resources with vigor and ingenuity to transform an agricultural economy and build a mighty industrial civilization.

The enormous increases in the use of energy fuels have been stimulated in great part by a rising population, by shifts from older to newer fuels, by higher income and living levels. These changes have continuously increased per capita energy use. At the same time, there have been fewer and fewer workers involved in the extraction, processing and transportation of energy fuels in proportion to total economic activity.

Between 1900 and 1960 the use of energy for all purposes by Americans increased by 500 percent. In 1960, the United States consumed the energy equivalent of 8 million barrels of oil, nearly 2 million tons of coal and about 45 trillion cubic feet of natural gas.

In contrast to this five-fold increase in energy consumption over six decades the population of the U.S. rose by 142 percent and the per capita use of energy moved upward by almost 250 percent.

With only about 6 percent of the world's population, the United States uses one-third of the total world production of energy. It has an annual per capita rate of use six times that of the average per capita use of the rest of the world. Each American man, woman and child has working for him each year, either directly or indirectly, the equivalent of the energy contained in 9 tons of coal.

In 1850, the U.S. derived 90.6 percent of its energy (other than that supplied by the muscles of men and of domestic animals) from the burning of wood in industry, for heating and transportation purposes. The remaining 9.4 percent of the aggregate national energy

consumption was obtained from the burning of bituminous and anthracite coal.

Fifty years later, by 1900, fuel wood had been superseded by coal as the principal energy source for the nation—70.3 percent coal, 20.7 percent fuel wood. By 1900, the second great shift in energy fuel sources was beginning—petroleum, natural gas and hydropower together were accounting for 9 percent of total U.S. energy use for all purposes.

By 1960, petroleum products, including natural gas, had toppled King Coal from its throne. Coal provided only 24.5 percent of energy used in the nation, with oil and natural gas providing 68.4 percent. Hydropower and fuel wood each supplied about 3.5 percent of U.S. energy consumed in 1960.

Most experts are in general agreement that these proportions are likely to hold in the immediate period ahead.

The change from wood to coal laid the basis for the growth of the iron and steel industry. Expanded steel production stimulated the construction of railroads throughout the country, metal machines of all kinds spurred the growth of mass production. New and cheaper sources of lubrication and illumination came from petroleum products.

During this century, liquid fuel and electricity have made possible even more changes. Lighting, communications and automatic controls and farm operations—all have been changed and reorganized. Liquid fuels have made possible the vast growth of automotive transportation and highway systems carrying motorized vehicles. Each innovation, each shift from older to newer energy forms—in combination with other changes—has transformed ways of living.

Next to water and air, upon which we depend for existence, energy is our most indispensable resource. Without it, an urbanized industrial society and today's manner of living would be impossible.

Future Energy Requirements

Since World War II, searching questions have been raised concerning future trends in the demand for energy. The aim is to ascertain the amounts necessary to maintain an adequate supply and establish the necessary policies and programs to secure it.

Since the landmark study of the energy and raw materials situation was presented to President Truman by his Materials Policy Commission (Paley Report) in 1952, a number of important analyses of the problem have been made. Studies have been conducted by the Senate Select Committee on Water Resources, the National Academy of Science, the Atomic Energy Commission, the National Fuels and Energy Study Group and others. The most ambitious attempt to update the far-reaching Paley Report was "Resources in America's Future," a 1963 study issued by Resources for the Future, a non-profit organization. The Federal Power Commission's National Power Survey was released in 1964.

Most previous forecasts of U.S. energy demands

have been underestimates. Actual requirements, in particular that for electric energy and natural gas, have had a consistent habit of bursting the seams of nearly every forecast. Even now, many present estimates discount the possible future effect of nuclear energy as a competitive fuel on the demand for power.

In view of an increasing U.S. population which will reach about 300 million people by the year 2000, a doubling of per capita use of energy during the next 35 years, the total demand for coal, oil, natural gas and electric power will increase threefold by 2000. By that time, the demand for electric power may have quadrupled.

Available Energy Reserves

It is quite evident that it will be necessary to triple available energy supplies from coal, oil, natural gas, hydropower and nuclear fuels to carry out this nation's obligation to its domestic and foreign commitments and maintain an expanding economy for the rest of the 20th century.

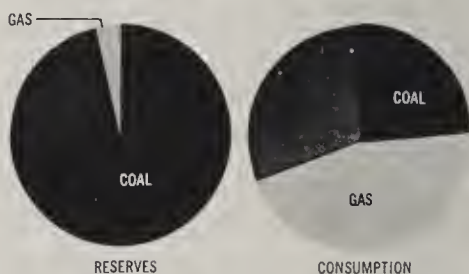
Does America have enough energy fuels within its borders or available from other countries to go around?

One British Thermal Unit (BTU) is the amount of energy sufficient to heat one pound of water one degree fahrenheit. The 1962 Senate fuels and energy study indicated there are fossil fuel reserves (coal, oil and natural gas) of about 28-30 quintillion BTUs. One quintillion is expressed numerically as 1 followed by 18 zeros.

Using somewhat different definitions, the U.S. Department of Interior furnished the Atomic Energy Commission with energy reserve estimates used in the Commission's 1962 study on civilian nuclear power. Interior showed about 130 quintillion BTUs of fossil fuel energy reserves—6 quintillion were known and could be processed at about the same costs as those presently prevailing; 124 quintillion were in the form of marginal, more costly and inferred but not yet discovered resources. About 1.4 quintillion BTUs of energy resources had been consumed in America by 1962 and, by 2000, an estimated 5 quintillion BTUs will have been used up.

On this basis the U.S. will have depleted its presently

IMBALANCE IN CURRENT U.S. USE OF FOSSIL FUELS



SOURCE: Pg. 19, "Nuclear Power, U.S.A.," by Zinn, Pittman and Hogerton
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known low-cost energy reserves within the next century or less and all foreseeable conventional energy resources within 150 to 200 years.

It should be kept in mind that all forecasts of energy consumption become less reliable the further into the future they attempt to penetrate.

Coal and petroleum resources are non-renewable; that is, they were formed by intense heat over millions of years. Each ton of coal mined, each barrel of oil or thousand cubic feet of natural gas extracted from wells reduces the national and world supply absolutely.

Yet estimates of available supplies of oil and natural gas are constantly being revised as new discoveries are made, both in the United States and abroad. The coal reserves of this country are still enormous and appear ample, for this century at least. The higher costs of the exploration and location of oil deposits and of mining lower grade coal at greater depths will tend to affect consumers in the years to come unless new techniques and devices offset this trend.

Competing new sources of energy inevitably will make it less desirable to expand exploration for new fossil fuels resources (coal and petroleum), even without taking into consideration the desirability of their wise conservation.

A tapering off of the heavy dependency on the use of these energy fuels long before the time of their exhaustion can be expected. During this period technological change within the fossil fuel industries will slow down the rate of their depletion and reduce the costs of their extraction, processing and transportation.

America, with only 6 percent of the world's population, contains about 30 percent of the world's supply of fossil fuels. While the world rate of energy use is about the same as that of the United States, it is depleting its less extensive reserves three times more rapidly.

For example, the United States has become a net importer of petroleum, obtaining about 20 percent of its requirements from abroad. This, however, reflects the lower world market cost of petroleum, not a present shortage of U.S. oil.

America's energy conservation position will not in the long run be aided by this growing dependence on foreign sources of oil. As industry and technology are accelerated in the developing nations, this will increase the world consumption of oil and other energy fuels, with foreign reserves becoming depleted before our own. This cannot but aggravate the strain on U.S. oil and coal deposits as they will be called upon for export. This situation requires swift steps to:

1. Supplement existing fossil fuels wherever economically-feasible new or supplementary energy fuels can be used on a meaningful scale;
2. Develop increasingly efficient methods of discovering, extracting, processing, transporting and using conventional, new and supplementary energy fuels;
3. Develop new and improve on present techniques of electric power generation and transmission.

Two new and enormous sources of energy are expected to play a significant part in achieving the goal of enlarging the resource base of America and the world within the next two or three decades or sooner.

The new energy sources are oil from shale rock and nuclear power derived from uranium and thorium.

The New Shale Oil Resource

Beneath the plateau country of the Upper Colorado River Basin in portions of Colorado, Utah and Wyoming, lies the largest energy resource in the world—oil shale—containing a petroleum equivalent 40-fold larger than the nation's combined reserves of coal, liquid petroleum and natural gas. It is capable of meeting the future requirements of the United States for the next two centuries and is conservatively worth between \$2.5 and \$5 trillion.

Eighty percent of the oil shale potential is owned by the United States and administered by the Bureau of Land Management of the Department of Interior.

The emerging question is whether this enormous energy storehouse will be developed and controlled to benefit the nation or to enrich a handful of giant oil companies.

The efforts of labor, conservation, farm and consumer groups, have slowed down what appeared to be a fast takeover by the large oil companies, with the purpose of getting the oil shale lands and then developing them at their leisure and on their own terms. The Secretary of Interior, the Senate Interior Committee and the Senate Anti-Trust and Monopoly Subcommittee were warned by these groups that many basic questions need to be solved before development gets under way.

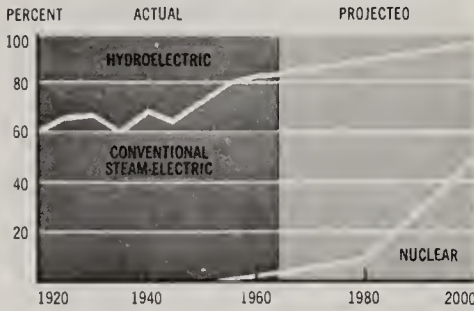
Oil shale rock has been used for heating and later for liquid petroleum for more than 125 years, particularly in high fuel cost areas in Europe, Asia, Australia and South Africa. Even now it is used for gas in heating in Estonia and Leningrad, USSR.

Although supplanted as an expanding energy source by the big oil discoveries in the U.S. and elsewhere, there was an intense and speculative boom shortly after World War I in Colorado, followed by enactment of the Minerals Leasing Act of 1920 which closed off filing of oil shale claims under the 1872 Mining Acts. In 1930, President Hoover withdrew all federal lands from oil shale development and, during the New Deal, President Roosevelt opened them up only for conventional oil, gas and sodium leasing.

The World War II petroleum shortages stimulated development by the Department of the Interior of a pilot oil shale program near Rifle, Colorado, to develop an economically competitive technology. This was abandoned under oil company pressures during the Eisenhower Administration and taken up again with the oil companies operating the facility under government contract during the Kennedy and Johnson administrations.

In 1963 and early 1964, the AFL-CIO informally urged the Secretary of the Interior to appoint a broad-

THE CHANGING SHARES OF U. S. POWER OUTPUT



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based Oil Shale Advisory Committee, which released its report in 1965. The group agreed that the oil shale resource was immense and valuable, but split on policy and program of development, in particular the respective roles of the federal government and of industry.

In 1967, the Secretary announced a proposed 5-point development program, leading to fullscale commercial leasing. This program was opposed by labor, farm, consumer and conservation groups before hearings conducted in February and in May 1967, both by the Senate Interior Committee and the Anti-Trust and Monopoly Subcommittee of the Senate Judiciary Committee and under chairmanship of Senator Hart of Michigan.

In 1967, legislation was introduced in both the Senate and House to establish an orderly program of oil shale development in the public interest, a position supported by the AFL-CIO. Also that year, the Secretary announced that he would review his own proposals.

A modified set of program recommendations was issued by the Secretary on May 29, 1968. While modifying his 1967 program in some respects, these do not constitute an adequate program and continues its control squarely in the hands of the grandfather oil companies.

The problems facing oil shale development are complex and difficult, but not insuperable. First, the cloudy federal title to the old claims prior to 1966 and the thousands filed during 1966, allegedly for sodium minerals, must be resolved in the courts. Second, the oil shale resource and the intermixed sodium minerals must be explored and evaluated. Third, an effective technology or technologies must be established for mining, crushing and heating the rock to release the liquid kerogen, but at the same time observe conservation values. Fourth, major policies of leasing, or of federal yardstick demonstration plants, must be determined and with it an effort to benefit consumers by lower prices for petroleum products, and the establishment of a competitive oil shale industry, together with safeguards against its being taken over by the oil corporation giants.

The 1967 policy statement on oil shale adopted by the AFL-CIO called for an orderly federal multiple-use oil shale development program which would "develop economically competitive and feasible methods of processing oil shale, and other intermixed minerals, foster the development of a competitive oil shale industry, protect the environment affected by such programs, help provide abundant supplies of low-cost petroleum products to the American consumer, safeguard leasing arrangements against monopoly, and use revenues from any leasing program to assist in financing federal public sector programs."

The battle over control of one of the richest resources still belonging to the American people is only beginning. Its outcome will be of great importance to the future of every citizen and every worker.

The New Nuclear Resource

Nuclear energy in a power reactor provides heat which makes steam which in turn generates electric power, heats buildings and is useful in other industrial processes. Except for the kind of energy fuel used, there is no difference between nuclear heat and heat derived from burning coal, oil or natural gas.

Nuclear power has certain restrictions in the range of its applications. Unit costs are attractive only in large-scale power plants and ships. The reason for this is the indispensable need for massive and expensive shielding and elaborate safety devices and precautions to protect against the possibility of nuclear accidents. For reasons of safety, atomic power stations until recently have been placed at some distance from large concentrations of population.

The safety factor in plant location is becoming less and less a point of objection, with advancing knowledge and experience in operating reactors. Nevertheless, attempts by utilities to construct large nuclear power installations in such cities as New York and Los Angeles have met with strenuous opposition from local groups on safety grounds.

The means must be found to provide citizens with better information on nuclear power facilities and safety problems involved if public confidence is to be achieved and utilities enabled to add nuclear plants to their systems, observing all necessary safety criteria to protect the public.

There are areas such as New England, the Great Lakes region and California, where the costs of coal, natural gas and fuel oil are very high. It is in these areas that nuclear power is now competitive in the costs of generating electricity with conventional fossil fuels. In the future, nuclear power also should be able to compete with other energy sources in the heating of homes and office buildings.

Environmental Problems

For many years, the Atomic Energy Commission has been developing experimental reactors of a design which will produce more nuclear fuel than is used in the generation of electricity. These are called breeder reactors.

The only breeder reactor now in commercial production is being operated on a test basis by a private power company near Detroit, Michigan.

It probably will be a matter of only a relatively few years before breeder reactors can be used by commercial electric utilities. They will make it possible to utilize the entire energy potential contained in uranium and thorium. This would mean the known nuclear resource would be increased by a factor of 100, making mining costs a negligible factor.

A breakthrough in breeder technology would open up for processing enormous quantities of low-grade uranium and thorium ore. Thorium is an element which yields a fissionable isotope uranium (U-238). These elements are found in the granitic rocks of the Appalachian chain from New England to Tennessee, in the Rocky Mountains and the Great Lakes states and in phosphate and shale oil rock in the Rocky Mountains, in Tennessee and Florida.

In ultimate terms, uranium and thorium, if mined to fuel more and more breeder reactors of the future, would stupendously multiply the energy resources of America some 2,300 times. This would give substance to a prophecy made several years ago by Lewis Strauss, former AEC chairman, that one day nuclear power would be so cheap and abundant it would not even be metered.

In the last decade, the costs of generating a kilowatt-hour of electric power from a nuclear-fueled plant has dropped from more than 50 mills to between 8 to 14 mills. Plants now under construction or planned will hopefully bring costs down to somewhere between 4 to 7 mills, fully competitive in many areas with large unit coal-fired power stations.

It must be remembered, however, that the long-range future of nuclear power does not lie with burner reactors now in use but with the breeders, simply on the basis of fully utilizing the resource. The value of the present generation of atomic power plants is mainly in high fuel cost areas, with great promise if employed

in huge units of a million kilowatts or more to generate both for power and large-scale desalinization of water in the southwestern and Gulf states and water-short regions elsewhere in the world. Work on this most important aspect of peaceful nuclear development is already proceeding with joint cooperation between the AEC and the Interior Department, with international scientific collaboration between the U.S. and Israel and the United States and the Soviet Union.

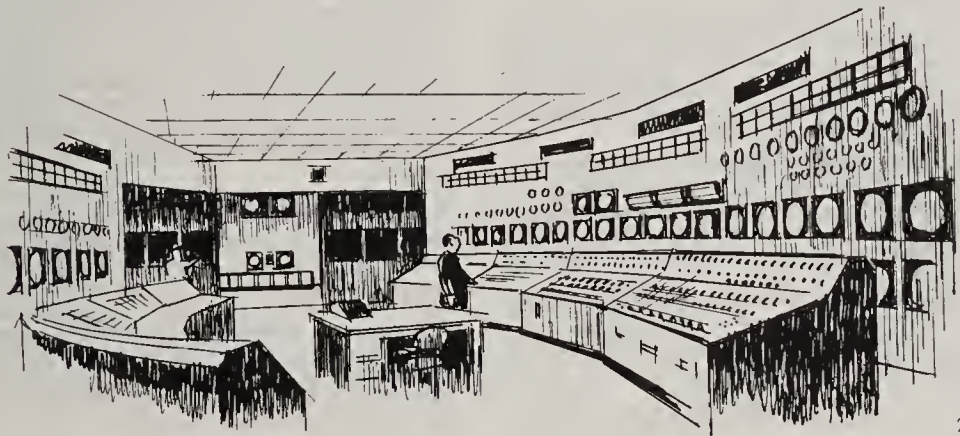
If shale oil and nuclear resources are brought into full play in serving the expanding energy requirements of a still increasing population in a full employment economy, they will provide an immense base from which the United States economy can rise to new heights.

The expansion of the utility industry even now accounts for about 10 percent of total national industrial construction. By 1980, its annual capital investment is expected to reach some \$6.5 billion and, by the end of the century, \$20 billion. Annual costs of generating and transmitting electric power may exceed \$15 billion by 1980 and approach \$50 billion by 2000.

Reductions in nuclear power costs would not only serve as healthy competition to coal and natural gas, but could largely eliminate the now significant differences in fuel costs between regions because of transportation costs and thus save consumers billions of dollars in power bills each year.

Moreover, expansion of shale oil uses will enable more effective conservation of conventional petroleum resources. In the same manner, the use of nuclear power to produce electricity will aid in conservation of coal reserves and stimulate research and development into other potential uses of coal—as a liquid fuel and in industrial processes—which would be non-competitive with nuclear energy.

With strong regulation through the federal power yardstick, there could be a lower rate base and lower bills for the nation's electricity users. It would be possible to sell power at prices not much higher than the



costs of transmission, operation, maintenance and replacement.

Such low costs could be expected to produce a soaring per capita use of electricity. Over the nation generally, but in particular in regions now penalized by higher energy fuel costs, industrial development would gain momentum.

Overcrowded and decaying urban centers could be decentralized, with populations gathered around nuclear energy complexes which would create power and expand other uses of nuclear energy. This would help create better towns and cities, better use of land and reduce the strain on transportation facilities.

New Generation and Transmission Techniques

In recent years, space and military research programs have developed a new concept of power generation—the direct conversion of the chemical energy of heat releases to electric energy. The aim of this research is to eliminate steam boilers, turbines and generators in the production of electric power.

Among the methods of direct generation being pursued is the thermo-electric generator, which enables electricity to be passed off into a wire from application of heat to electric conductors.

In the field of transportation, fuel cells bear great promise. They differ from the ordinary storage battery principle in that the energy is provided by chemical reaction and is not stored. The Tennessee Valley Authority has been experimenting with an auto powered by a fuel cell, with only 30-odd moving parts. Longer lasting fuel cells could provide a basis for a profound revolution in the petroleum and automobile industries.

Thermonuclear fusion power is based on the principle of releasing tremendous quantities of energy by combining lighter elements at high velocity to form new and heavier elements.

The world's nuclear scientists have been at work on the problem of containment of plasma in a magnetic field at temperatures between 40 to 100 million degrees centigrade in order to provide a sustained reaction emitting energy.

The heavy hydrogen atoms (deuterium and tritium) used in this technique are found throughout the world's oceans and seas. Success in achieving fusion power would place still another energy resource of almost inconceivable vastness at the disposal of the people of the world in the more distant future.

The technology of efficiently transmitting huge amounts of power over distances up to 1,000 miles or more has been designated as ehv (extra heavy voltage). More familiarly, when combined with huge coal or atomic-fueled generating plants, it is known as "giant power."

The giant power concept was pioneered by the late Gifford Pinchot in the 1920s. It was utilized in the early English power grid and by TVA and the Bonneville Power Administration during the 1930s and 1940s.

But since that time various European countries, in-

cluding the USSR, have expanded ehv to carry 500,000 volts or more of electric energy, as compared to the 345,000 volt lines of TVA and Bonneville.

The federal power agencies and private utilities of this country, however, are now expanding ehv in earnest. A vast system of ehv lines to exchange power between the Pacific Northwest and the Pacific Southwest to the Mexican border is well toward completion. Utilities, singly or in loosely-associated groups, are now exploring ehv.

The result most certainly will be regional, interregional power exchanges and finally a national power supply system. The thermal plants would supply the steady power demand, while hydro plants would be operated to meet sudden load demands of users.

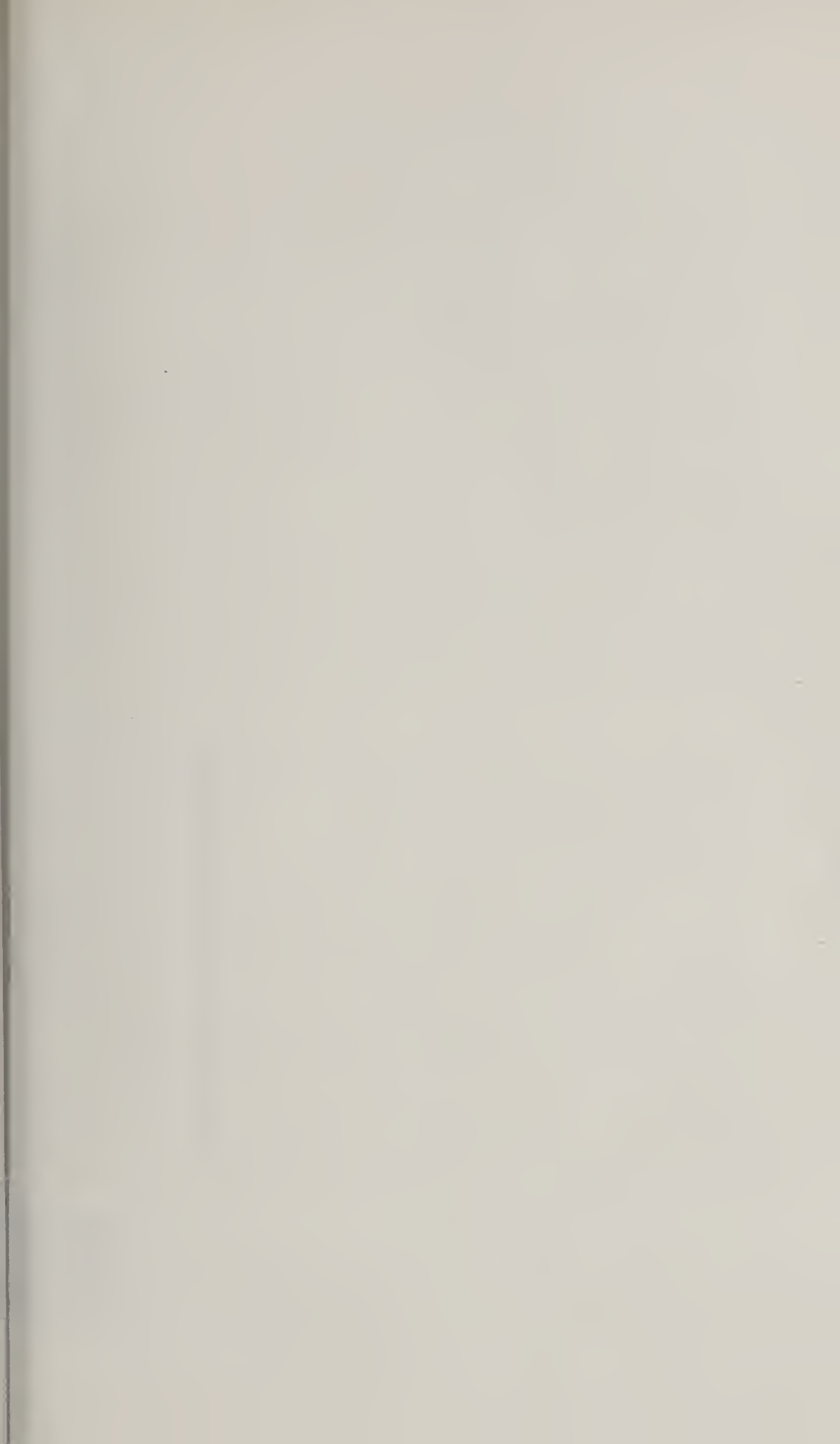
The 1964 National Power Survey of the Federal Power Commission set forth the needs and advantages of such mixed ownership networks and suggested that it could result by 1980 in savings of fixed charges amounting to some \$11.7 billion a year for the nation—much of which could be passed on to the consumer in the form of lower electricity bills.

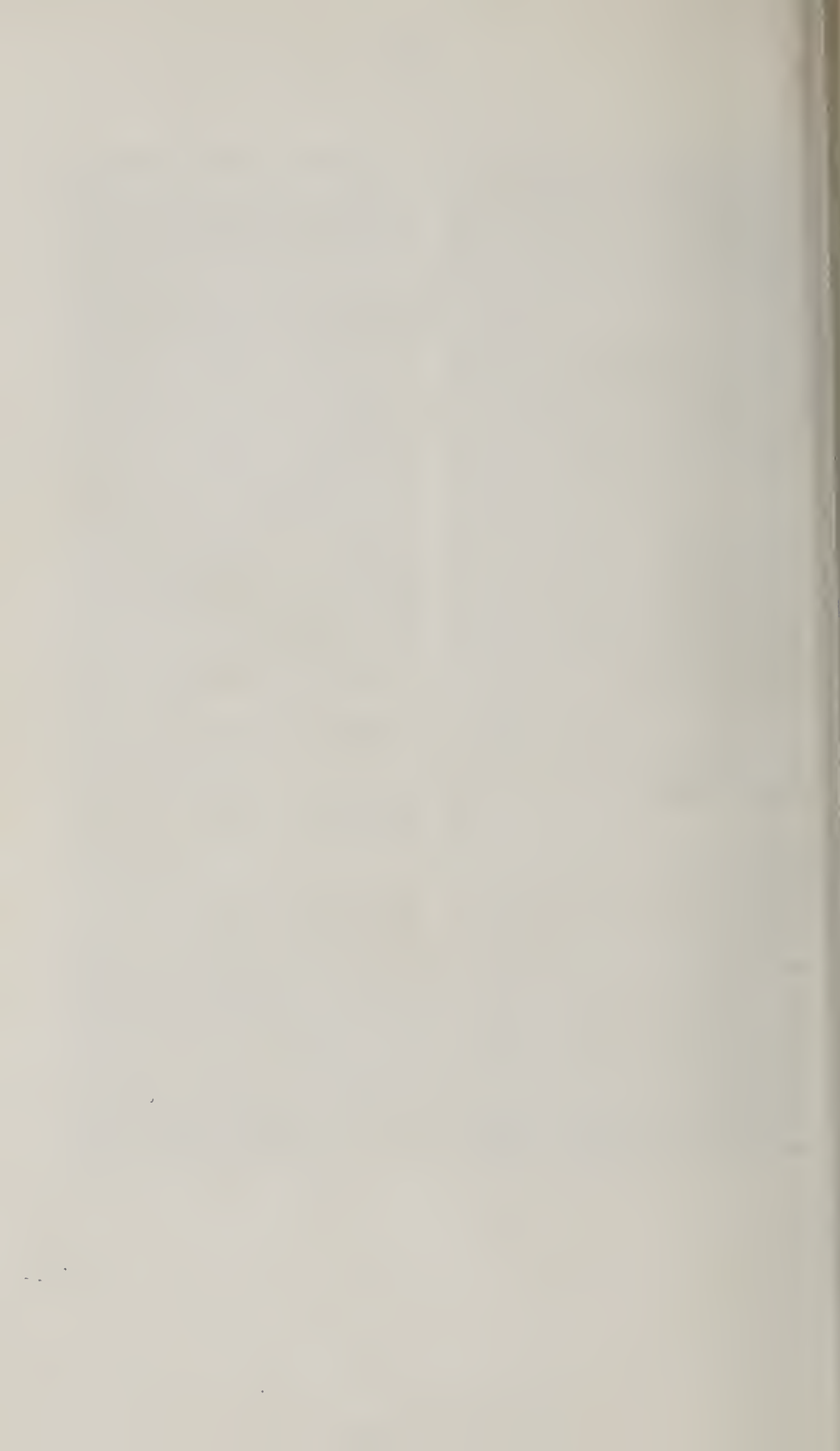
The national concern over the two major power failures of 1965 and 1967 which affected millions of citizens, resulted in FPC and administration proposed legislation to ensure reliability of electrical service and avoid major blackouts (the Electric Power Reliability Act of 1967). Legislation has also been introduced to require private utilities building nuclear plants to allow smaller consumer owned utilities to buy into them and thus obtain an adequate future power supply. Increasing attention is now being given by the Federal Power Commission as to the effects of transmission lines on the environment and of nuclear plants on thermal pollution.

As the nation's largest consumers' organization, the AFL-CIO is vitally interested that the fruits of such a new advance will be reflected both in abundant supplies of power and lower power bills. It is equally interested to assist in developing national policies designed to prevent monopoly control.

Today's need is for broad energy planning and policy decisions made at the national level and geared both to immediate and longer range national objectives of strengthening economic growth and stability. All such policies should embody widespread benefits to consumers, safeguards against growth of monopoly and employment of wise conservation, management and use, including the control of adverse environmental effects.

Not only must man use these forces for his release from the fetters of his natural environment, but he must come to understand that the forces he now controls have become so enormous and so impersonal that they are impacting his physical habitat and his social organization as well. The crucial task ahead is to find ways to harmonize the polarized extremes of the natural system of evolution and the deliberate manipulation of natural evolutionary processes by man. Human freedom and human wellbeing depend on how well this challenge is met.







MEMORANDUM FROM ENVIRONMENTAL PROTECTION AGENCY
ASSISTANT ADMINISTRATOR FOR ENFORCEMENT JOHN R. QUARLES, JR.,
ON EXEMPTION OF PERMITS FROM THE NATIONAL ENVIRONMENTAL POLICY ACT

Memorandum

To: The Administrator

From: Assistant Administrator for Enforcement and General Counsel

Subject: EPA's Position on H.R. 14103

Congressman Dingell has introduced a bill, H.R. 14103, providing a temporary partial exemption for the permit program from the requirement of preparing environmental impact statements under the National Environmental Policy Act. This memorandum is for the purpose of outlining why I believe that EPA should vigorously support this bill.

1. *Background: Impact of Kalur decision on permit program.*

H.R. 14103 is an outgrowth of the district court decision in the case of *Kalur and Large v. Resor et al.* In that case, the court enjoined the operation of the Refuse Act permit program until the pertinent regulations are amended to provide for the filing of environmental impact statements under NEPA. The Department of Justice is appealing that decision, but we do not expect the case to be heard and decided by the Court of Appeals at least until the fall. In the meantime issuance of permits under the program has come to a standstill.

The *Kalur* decision stopped the permit program at a time when it was on the verge of producing substantial results after nearly a year of start-up work. In our start-up period, we assembled a staff of some 360 people, primarily in the regional offices, to handle the approximately 20,000 applications that were received. While this flood of applications at first overwhelmed us, the staff has now reviewed most of the applications, in many cases identifying deficiencies in the information supplied and requiring the companies to supply more adequate information. In the meantime, the staff has identified the approximately 2500 major dischargers and has concentrated on them. Draft permit conditions have been prepared for approximately 500 companies — principally the major dischargers. And while some further work remains to be done in these cases, we could soon start to issue permits embodying these conditions if H.R. 14103 were passed. *In nearly all cases the permits would require pollution abatement programs which are considerably more demanding than what the companies are presently doing.*

As a basis for the issuance of all permits, the permit program has made a commitment to require industrial dischargers to adopt at every plant the best practicable control technology currently available, and we have

pushed our staff to insist on a stringent application of that standard. To guarantee application of the "best practicable" standard, we have been developing specific guidance to our regional offices on what permit conditions are needed in specific industrial categories. In many of these categories, we are ready to furnish that guidance as to the technologies that must be adopted, and I expect that this will accelerate the preparation of draft permits and increase the number of permits that could be issued if H.R. 14103 were passed.

We believe that it is vital to issue permits under the Refuse Act as quickly as we are able to perform a thorough evaluation of each application. Although under the law to discharge from an industrial point source without a permit is illegal, it would be ridiculous to shut down every water-using industry in the United States. Instead, our only practical means of control is to issue permits with specified conditions so that the discharger will know precisely the requirements he must meet. Each permit will be designed to put the discharger on a pollution abatement schedule. *Every day of delay in issuing permits is a day of delay in initiating pollution abatement.*

2. *Could the permit program live with NEPA by utilizing short-cut procedures?*

The question naturally arises as to whether we could simply accept the *Kalur* decision, prepare impact statements for every permit that is "major" for NEPA purposes, and get on with the program. I do not believe that this is a feasible alternative. The permit program is presently faced with a backlog of some 20,000 permit applications. Although no one can state with certainty how many of these are "major" so as to require impact statements, our best estimate is that a substantial portion of the permits would require impact statements. To date, the impact statements that EPA has prepared have required approximately half a man year each. To expend anywhere near this type of effort on any substantial portion of the 20,000 pending permit applications would result in interminable delays, if not a complete administrative breakdown.

There have been suggestions that the permit program could live with NEPA if short-cuts were devised, so that individual impact statements did not have to be prepared for each major permit. In general, the idea is either to prepare "umbrella" statements covering all dischargers in a given area, or to define restrictively what constitutes a "major" permit, so that the number of statements required is manageable. I do not believe these suggestions

are well-taken. We are preparing a legal memorandum on this point. Briefly, the considerations which militate against any "short-cut" approach are as follows:

(a) "Umbrella" statements could analyze the standards for a body of water, and show that individual dischargers do or do not meet them. But the *Calvert Cliffs* interpretation of NEPA, if applicable, would require a weighing of the particular pollution caused by each individual plant, as against the plant's economic and technical benefits. This could only be done on an individual, case-by-case basis. Even in an "umbrella" statement, NEPA would necessarily require a meaningful consideration of the impact of each plant's discharge on the particular body of water involved. Our experience is that most plants present unique problems in light of their particular environment, and accordingly we think that a meaningful consideration of the impact of any plant's discharge would have to go into considerable detail even if it were done in the context of an "umbrella" statement.

(b) The courts are not likely to accept any restrictive administrative definition of what constitutes a "major" permit for NEPA purposes.

(c) Any adoption of a "short-cut" procedure will lead to litigation, which will cast doubt on any permit issued during the litigation, and may well lead to a temporary injunction barring permit issuance while the litigation is being resolved. This will lead to still further delays in the issuance of valid permits and the resultant initiation of pollution abatement programs by industry. Moreover, under the pending water bills, the permit program will eventually be delegated to the States. Delays in the issuance of federal permits caused by NEPA litigation may mean that few if any federal permits are issued before the delegation to the States takes place.

In several court cases Federal action has been delayed because an impact statement prepared by a Federal agency has been determined insufficient for any one of various different reasons. Our most serious concern is that if impact statements are required for permits, the statements prepared may be challenged as inadequate either by environmentalists or by industry. There are growing indications that industry will turn NEPA to its benefit. Although the attention of environmentalists and public interest groups is limited to key cases, every permit will be scrutinized by the owners of the plant it covers. A few suits by industry, coupled by the threat of suit in every other case, could severely undercut our practical ability to impose stringent abatement requirements through the permit program.

3. *The Dingell Bill is narrowly restricted to exempt from NEPA only the first round of permits on existing plants.*

H.R. 14103 represents a sensible and limited measure to deal with permit program's problem. The bill would exempt only permits issued prior to December 31, 1975 -- a period of time that should be sufficient to largely clear up the existing backlog of permit applications. In the meantime, the bill would have no application to plants the construction of which started after April 1, 1972. Thus industrial planning for new plants must take

into account the possibility that a permit application on behalf of the new plant must face a NEPA review. And finally, no major permit issued without NEPA compliance can remain in effect past December 31, 1977 until NEPA is complied with -- thus ensuring the temporary nature of the exemption.

4. *Impact statements are not required to achieve environmentally sound permits and to guarantee public participation and judicial review.*

The broad purposes of NEPA will not be compromised by this limited exemption. The permit program contains many safeguards designed to ensure that the permit is a vehicle for the improvement, rather than the degradation, of the environment. On the merits, the permit applicant must meet water quality standards, must adopt the best practicable control technology currently available, and must periodically monitor his discharge. As a procedural matter, the permit program offers ample opportunity for public participation. Public notice must be given of every permit application. Public comments are taken into account in the administrative decision. Where substantial public interest is displayed, public hearings are held. Citizens who are dissatisfied with the terms of the permit may obtain judicial review in the Federal courts.

In short, the principal objects of NEPA -- environmentally sound decision-making, public participation, and judicial review -- are achieved by the present permit program procedures. To add the environmental impact statement to the present procedure would add nothing but delay -- delay that we can ill afford.

5. *Will H.R. 14103 open the door to a general weakening of NEPA?*

From the viewpoint of our environmental responsibilities, the only possible drawback to enactment of H.R. 14103 is the concern that it may serve as a precedent for other agencies to come in demanding an exemption from NEPA. In other words, it is argued that H.R. 14103 may be the opening wedge in a general assault on NEPA.

We believe that this concern is ill-founded. There are two basic respects in which H.R. 14103 is a unique bill designed to deal with a unique situation, and could not serve as a precedent for exempting any other agency from NEPA.

In the first place, H.R. 14103 is addressed to the problem of a large backlog of permit applications -- a backlog that was accumulated at a time when EPA was operating under the guidelines of the Council on Environmental Quality exempting its environmental regulatory activities from section 102 of NEPA. No other agency can make the claim that it accumulated such a large backlog of actions under a presumptively valid regulation exempting the actions from NEPA.

In the second place, the program which H.R. 14103 is designed to facilitate, is a pollution abatement program. To delay this program in order to prepare thousands of impact statements will serve to delay environmental clean-up, and thus frustrate the very purposes of the National Environmental Policy Act. NEPA clearly contemplated that some developmental programs would be delayed in

order to guarantee appropriate consideration of environmental values. But NEPA was not designed to cause major delays in programs designed to clean up the environment. For this reason, a bill designed to facilitate action on the permit program backlog is perfectly consistent with the purposes of NEPA.

Finally, I should note that H.R. 14103 will go through the House Merchant Marine and Fisheries Committee, thus establishing the important precedent that exemptions from NEPA must be passed upon by that Committee rather than going through other committees as part of program-oriented legislation. Moreover, in that Committee, NEPA legislation goes through Congressman Dingell's

Subcommittee — a fact which, I believe, will protect NEPA against ill-considered and unwarranted incursions.

6. Conclusion.

For these reasons it is clear that exemption of the permit program from NEPA on a narrowly limited basis of H.R. 14103 is essential to our objectives of controlling water pollution from industrial sources, and from an overall viewpoint it will substantially contribute to environmental protection.

/s/ John R. Quarles, Jr.
Assistant Administrator for
Enforcement and General Counsel

MEMORANDUM FROM ENVIRONMENTAL PROTECTION AGENCY ASSISTANT ADMINISTRATOR FOR ENFORCEMENT JOHN R. QUARLES, JR., ON ENFORCEMENT POLICIES IN EPA REGIONAL OFFICES

MEMORANDUM

TO: All Regional Administrators

FROM: Assistant Administrator for Enforcement and
General Counsel

SUBJECT: Water Enforcement Program

I have completed a tour of all ten Regions during the past two months to discuss progress in the permit program and in the general enforcement program of the Agency. This memorandum, on the enforcement program, will set forth certain impressions from that trip and points of emphasis for continuing enforcement activities. It will also modify certain procedures for handling recommendations for enforcement actions.

1. *General Impressions.* I am pleased to note substantial progress being made in most Regions toward creation of a responsible, hard-hitting enforcement program. The Agency is developing a good staff of enforcement personnel — attorneys, engineers and scientists. The chief deficiency is lack of experience, and that is being overcome rapidly. There continues to be a real need to develop and put into effect a forward-looking EPA enforcement strategy, current efforts being too heavily controlled on the basis of responding to external suggestion or initiative.

2. *Technical Support.* A spirit of cooperation and efficient coordination between the Surveillance and Analysis Divisions and Enforcement Divisions is evident in most Regions. Field investigation work has shifted toward case preparation for targeted enforcement actions, although further reorientation of effort is still needed to varying degrees. In some Regions shortage of manpower for investigative work has been complained of, but little effort has been made to utilize support services from the Cincinnati and Denver NIFCs, which have provided important assistance to other Regions.

3. *State Relationships.* Relationships with State water pollution control agencies remain a substantial impediment

ment to fully effective enforcement efforts by EPA. General success has been realized in effectuating procedures for advance notification and coordination with States on proposed enforcement actions. Nonetheless, State officials continue to express resentment over EPA enforcement actions, and apprehension over such concern continues to inhibit aggressive enforcement activities by this Agency. If any action is questioned by a State, each Region should clearly and unequivocally communicate to State counterparts our policy that EPA will initiate enforcement action whenever in our professional judgment the circumstances so require. Needed enforcement actions must not be restricted or delayed merely to avoid objections by State officials.

4. *Oil Spills.* Enforcement actions based on oil spills must be given greater emphasis. Our present record in this area is definitely unsatisfactory. Draft guidelines and procedures for oil spill enforcement have been distributed to regional personnel for comment and will be in final form shortly. Each Region should realize that it is essential that we begin to prosecute these oil spill dischargers in order to establish a deterrent against such spills and to stimulate intensified efforts for prevention.

5. *Commitment Letters.* The vigorous thrust by EPA in formal enforcement proceedings has led to widespread willingness by industry to make voluntary commitments to undertake acceptable abatement programs. Most Regions have developed extensive programs for negotiation with industries to obtain voluntary abatement. Most Regions, however, have not developed uniform procedures for formalizing such commitments. It is highly important that such commitments be set forth in writing, covering all material requirements to be met by the discharger with specific deadlines for each requirement. This will assure that the commitment covers all material points and is clearly understood; it also will facilitate enforcement in the event of default. Although commitment letters should not supplant court stipulations or consent decrees in appropriate cases, such letters can provide an expedited

LEGISLATIVE HISTORY
Public Law 91-190
S. 1075

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INDEX AND SUMMARY OF S. 1075

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|-------|----------|--|
| Feb. | 18, 1969 | Sen. Jackson introduced and discussed S. 1075 which was referred to Senate Interior and Insular Affairs Committee. Print of bill as introduced and remarks of Sen. Jackson. |
| May | 29, 1969 | Sen. Jackson submitted a proposed amendment to S. 1075. |
| June | 18, 1969 | Senate committee voted to report (but did not actually report) S. 1075. |
| July | 1, 1969 | Rep. Dingell and others introduced H. R. 12549 which was referred to Merchant Marine and Fisheries Committee. Print of bill. |
| July | 9, 1969 | Senate committee reported S. 1075 with amendments. S. Report No. 91-296. Print of bill and report. |
| July | 10, 1969 | Senate passed S. 1075 as reported. House committee voted to report (but did not actually report) H. R. 12549. |
| July | 11, 1969 | House committee reported H. R. 12549 with amendment. H. Report No. 91-378. Print of bill and report. |
| July | 19, 1969 | House committee reported H. R. 12549 without amendment. H. Report No. 91378, Pt. 2. |
| Sept. | 16, 1969 | House Rules Committee reported a resolution for the consideration of H. R. 12549. |
| Sept. | 23, 1969 | House passed S. 1075 with amendment, inserting the language of H. R. 12549. H. R. 12549 laid on table due to passage of S. 1075. House conferees were appointed. |
| Oct. | 8, 1969 | Senate disagreed to House amendments to S. 1075. Senate conferees were appointed. |
| Dec. | 10, 1969 | Conferees agreed to file a report. |

INDEX AND SUMMARY OF S. 1075, cont'd

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|------|----------|--|
| Dec. | 17, 1969 | House received conference report on S. 1075. H. Report No. 91-765. Print of report. |
| Dec. | 20, 1969 | Senate agreed to conference report. |
| Dec. | 22, 1969 | House agreed to conference report. |
| Jan. | 1, 1970 | Approved: Public Law 91-190. |

Statement by President when approving
bill.

Hearings: S. Interior and Insular Affairs
Committee on S. 1075.

THE HISTORY OF THE

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| 1801 | 1802 | 1803 | 1804 | 1805 | 1806 | 1807 | 1808 | 1809 | 1810 | 1811 | 1812 | 1813 | 1814 | 1815 | 1816 | 1817 | 1818 | 1819 | 1820 |
| 1821 | 1822 | 1823 | 1824 | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 |
| 1841 | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 |

THE HISTORY OF THE

NATIONAL ENVIRONMENTAL POLICY

PLEASE RETURN TO USDA
NATIONAL AGRICULTURAL LIBRARY
LAW BRANCH, LEGISLATIVE REPORTING
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Wash. D. C. Ext. 4654

PLEASE RETURN TO USDA
NATIONAL AGRICULTURAL LIBRARY
LAW BRANCH, LEGISLATIVE REPORTING
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Wash. D. C. Ext. 4654

HEARING BEFORE THE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS UNITED STATES SENATE NINETY-FIRST CONGRESS

FIRST SESSION

ON

S. 1075, S. 237, and S. 1752

BILLS TO AUTHORIZE THE SECRETARY OF THE INTERIOR
TO CONDUCT INVESTIGATIONS, STUDIES, SURVEYS, AND
RESEARCH RELATING TO THE NATION'S ECOLOGICAL
SYSTEMS, NATURAL RESOURCES, AND ENVIRONMENTAL
QUALITY, AND TO ESTABLISH A COUNCIL ON ENVIRON-
MENTAL QUALITY

APRIL 16, 1969



Printed for the use of the
Committee on Interior and Insular Affairs

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1969

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NATIONAL ENVIRONMENTAL POLICY

WEDNESDAY, APRIL 16, 1969

U.S. SENATE,
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,
Washington, D.C.

The committee met, at 10:10 a.m., in room 3110, New Senate Office Building, Senator Henry M. Jackson (chairman) presiding.

Present: Senators Jackson, Anderson, Bible, Moss, Nelson, Metcalf, Allott, Jordan of Idaho, Hansen, Hatfield, Stevens, and Bellmon.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; William J. Van Ness, special counsel; Daniel Dreyfus, professional staff member, and Charles Cook, minority counsel.

The CHAIRMAN. The committee will come to order.

The purpose of this morning's hearing is to take testimony on S. 1075, S. 237, and S. 1752. These three bills were introduced by the chairman, Senator McGovern, and Senator Nelson. At this point in the record a copy of the bills and departmental reports will be inserted.

(The data referred to follow:)

[S. 1075, 91st Cong., first sess.]

A BILL To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the purpose of this Act to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources and the environmental forces affecting them and responsible for their development and future well-being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research.

TITLE I

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(a) to conduct investigations, studies, suveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(d) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environmental Quality established under title II of this Act.

SEC. 102. In carrying out the provisions of this title, the Secretary is authorized to make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

SEC. 103. The Secretary shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 104. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

SEC. 105. Nothing in this Act is intended to give, or shall be construed as giving the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purpose of identifying and eliminating any unnecessary duplication of effort.

SEC. 106. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

TITLE II

SEC. 201. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Council from such members.

SEC. 202 (a) The primary function of the Council shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to be conservation, social, economic, and health goals of this Nation. In carrying out this function, the Council shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice and assistance to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President.

(c) It shall be the duty and function of the Council and the Secretary of the Interior to assist and advise the President in the preparation of the biennial environment quality report required under section 203.

SEC. 203. The President shall transmit to the Congress annually beginning June 30, 1970, an environmental quality report which shall set forth (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 204. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 205. There are hereby authorized to be appropriated such sums as are necessary to carry out the purposes of this title.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: Your Committee has requested this Department's report on two similar bills, S. 1075 and S. 1752.

While we favor the objectives of these bills, we do not recommend their favorable consideration in view of President Nixon's announced intention to establish an interdepartmental Environmental Quality Council.

Both bills would establish in the Office of the President an environmental council composed of members appointed by the President with the advice and consent of the Senate to advise the President on environmental problems. In addition, both bills would authorize the Secretary of the Interior to undertake two major groups of programs relating to the environment.

First, Interior would prepare surveys and document and define changes in the natural environment and receive and maintain data on ecological research. These are enormous tasks requiring much time and money. While effort in this direction is needed, a much clearer description of objectives should be developed before we attempt to legislate a program in this area.

Second, under the bills, Interior would encourage public and private agencies to utilize the ecological data which it develops. Public works projects which affect the environment are carried out by many agencies. Yet the bills are not specific on how Interior would comment on those projects. If Interior must depend on other agencies coming to it, it is doubtful that many will. If Interior should volunteer its comments, it may well be viewed as an interloper by other agencies and by those who benefit from the projects. If the agencies were required to come to Interior, present administrative procedures would need to be changed.

The Department of the Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined. However, this Department does not have the sole responsibility for environmental matters. Other Federal agencies are concerned with air, farmland, forests, and other matters affecting the environment. The bills do not recognize these complex jurisdictional relationships, but rather tend to duplicate functions now carried out by these agencies.

In summary, we believe that the President's Council which is now contemplated is an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, we are confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely yours,

RUSSELL E. TRAIN,
Under Secretary of the Interior.

DEPARTMENT OF AGRICULTURE,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs,
U.S. Senate.*

DEAR MR. CHAIRMAN: This is in response to your request for a report on S. 1075, a bill "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality."

Title I of the bill would authorize the Secretary of the Interior (1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) to document and define changes in the natural environment, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and their underlying causes; (3) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment; (4) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; (5) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals; (6) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring and maintaining, and enhancing the quality of the environment; (7) to initiate and utilize ecological information in the planning and development of resource oriented projects; (8) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment; (9) to conduct research and studies within natural areas under Federal ownership which are under his jurisdiction and under the jurisdiction of other Federal agencies; and (10) to assist the Council on Environmental Quality.

In addition, the Secretary of the Interior would be required to consult with and provide technical assistance to Federal agencies and would be authorized to obtain from them whatever information, data, reports, advice, and assistance are needed and could reasonably be furnished in carrying out the purposes of the bill. Any Federal agency furnishing advice or assistance would be authorized to expend its own funds for such purposes, with or without reimbursement. The Secretary would be authorized (1) to make grants to and to enter into contracts or cooperative agreements with public or private agencies or organizations or individuals, (2) to accept and use donations of funds, property, personal services or facilities, and (3) to participate in environmental research in surrounding oceans and in other countries if he determines that such activities would contribute to the objectives and purposes of the bill.

The bill specifically states that it is not intended to give or to be construed as giving the Secretary of the Interior any authority over any authorized program of another department or agency and that it would not repeal, modify, restrict, or amend existing authorities or responsibilities of any department or agency with respect to the natural environment. The Secretary would be required to consult with the heads of departments and agencies to identify and eliminate duplication of effort.

Title II of S. 1075 would create in the Executive Office of the President a three member Council on Environmental Quality, appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate,

with the Chairman and vice chairman designated by the President. Each member would be professionally qualified to analyze and interpret environmental trends of all kinds and be conscious of and responsive to specific, economic, social, aesthetic and cultural needs and interests of the Nation.

The Council would study and analyze environmental trends and factors that affect the trends, relating each area of study and analysis to the conservation, social, economic, and health goals of the Nation. It would (1) report annually to the President on the state and conditions of the environment, (2) provide advice and assistance to the President on national policies needed to foster and promote improvement of environmental quality, and (3) obtain information concerning the quality of the environment and make it available to the public.

The Council would periodically review and appraise new and existing programs and activities of Federal agencies and make recommendations thereon to the President.

The Council, and the Secretary of the Interior, would assist and advise the President in the preparation of an annual environmental quality report.

Beginning June 30, 1970, the President would transmit annually to the Congress an environmental quality report which would set forth (1) the status and conditions of the major natural, man-made, or altered environmental classes of the Nation, and (2) the current and foreseeable trends in quality, management, and utilization of such environments, and the effects of those trends on the social, economic, and other requirements of the Nation.

This Department agrees that there is a need for further and continuing research into the natural environmental systems of the United States. It has many programs in research on soil and water conservation and forestry that deal with the problems discussed in the bill. The research program of the Forest Service presently includes studies of the natural environmental factors affecting most of our renewable natural resources, including forests, forested and related range lands, wildlife habitat, recreation, and water conservation and watershed management. Such research embraces all aspects of the ecology of most of the organisms that make up or affect the whole or any part of these resources. Study of related sociologic and economic factors are also a part of this research. The research activities of the Agricultural Research Service also involve ecology of our national environmental systems. The Soil Conservation Service has the national leadership of the National Cooperative Soil Survey which is actively engaged in classifying and mapping the soils of the United States. The soil survey reports include interpretations of the basic soils information for all suitable uses of the land including natural vegetation and wildlife. Any broader ecological studies would of necessity overlap or duplicate this effort.

The research organization and programs of this Department extend to both public (Federal, State, and local) and private lands. We cooperate actively with other public and private research organizations, including schools and universities. The results of our research program, and the benefits therefrom, are disseminated or available to and used by both public and private landowners in the management of their natural resources. Research of natural environmental systems which S. 1075 would authorize does not lend itself to area limitations such as National Forests, National Parks, or other political or administrative jurisdictions.

A number of Federal agencies, in addition to this Department as well as the Department of the Interior, have on-going investigations, studies, surveys, and research in this general field. We believe that the Committee on Environmental Quality that was established by the Office of Science and Technology is usefully serving as a body to coordinate planning and activities in this field. This inter-agency group is giving certain technical coordination to the Federal programs in this area of concern.

Section 101(c) of the bill would authorize the Secretary of the Interior to develop and maintain an inventory of both public and private projects which may make significant modification in the natural environment.

Many agencies maintain inventory records of that kind of projects. S. 1075 would require the establishment of an extensive new records and reporting system covering numerous public and private activities, large and small, and would require a large organization to assemble, analyze, clarify, and record the inventory information. Furthermore, so many known and unknown activities or related factors make, or may make, significant modifications in natural environment systems that definitions and criteria for inventory subjects would be a task of major proportions in itself.

We recommend against enactment of Title I. As pointed out above, not only this Department, but also a number of other Federal agencies, are engaging in a variety of research, study, and investigatory activities related to ecological systems and environment, and compile and maintain inventories of projects and activities. The broad scope of authorities in Title I would substantially overlap and duplicate those efforts. We believe that prior to the enactment of new authorities, a careful and comprehensive review of present activities, priorities, and capabilities of the agencies concerned is needed.

We support the objectives of Title II of S. 1075 concerning a Council on Environmental Quality. The environment in which we live affects, for better or worse, our health, our outlook and attitudes, our opportunities for a satisfactory life, and even our prospects for continued existence. There is constant interplay of resource use and exploitation, manufacturing processes, and air, water, and soil pollution, with efforts to maintain continuing production, a healthy environment and attractive surroundings. Many of these factors are affected, favorably or adversely, by Federal, State and local programs and activities and by the everyday activities of agriculture, industry and people. We believe that our complex and highly technical society could well benefit from a continuing, detached, broad perspective, constructive, and understanding appraisal of factors that affect our environment.

However, we do not recommend enactment of the provisions of Title II. There is now under consideration establishment of an environmental quality council within the Executive Office of the President. Such a council, we believe, would be able to assist and advise the President on national policies in the field of environmental policy and conduct an assessment of current activities in this area.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., April 17, 1969.

HON. HENRY A. JACKSON,
*Chairman, Senate Committee on Interior and Insular Affairs,
New Senate Office Building, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Bureau of the Budget on S. 237, S. 1075 and S. 1752. These bills have a basic objective in common: to enhance the Government's capability of dealing with the critical problems of the quality of our environment. Also common to them is the creation of a council in the Executive Office of the President to assist and advise the President on national policies to improve environmental quality.

We concur fully in the basic objective of the bills. The quality of man's environment is being increasingly affected by man's own works, and additional efforts are required to assess the nature of the hazards and the means for their avoidance or amelioration.

The President recently reemphasized his concern on this matter and indicated that actions are underway to assure continuing attention by his Administration to environmental factors in the planning and carrying out of Federal programs. A variety of organizational arrangements for accomplishing this objective are now under consideration in the agencies and by the President.

One of the major difficulties in dealing with this area is the broad, almost all encompassing nature of the term "environment." Programs of a number of Federal agencies have as a principal concern the protection or enhancement of aspects of the environment. Other programs affect the environment in various ways. Consequently, organizational arrangements alone will not suffice. It also is necessary to integrate specific environmental considerations into the decision-making processes of many agencies to make real progress. As Interior noted in its report to your Committee on S. 1075 and S. 1752, a complex set of jurisdictional relationships needs to be evaluated before proposing any new responsibilities or new organization.

As we indicated, improved organizational arrangements for better coordination of policy and program concerns in the field of environmental quality are under

active review within the executive branch. In present circumstances, we believe that such arrangement, particularly those in the Executive Office of the President designed to provide better policy advice and staff assistance to the President, should be undertaken by executive action rather than by legislation in order to assure flexibility necessary in exploratory or pilot efforts and in meeting changing needs.

Accordingly, we do not recommend favorable action at this time on the subject bills.

Sincerely,

WILFRED H. ROMMEL,
Assistant Director for Legislative Reference.

NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., April 22, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: On March 28 you invited me to testify at hearings to be held on April 15 and 16 on the bill S. 1075, "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality." Subsequently, in discussions with your staff, we have learned that pressures of time available for discussing the bill make it preferable for me to submit a letter for the record.

The National Science Foundation supports the objectives of the bill. The interests of the Foundation in environmental problems have been growing for many years and we have become a major source of federal support for academic research in the sciences of the environment. The Foundation's mission does not entail responsibility for action programs designed to ameliorate social problems, to improve health, to abate pollution, or to modify the environment. Instead, the Foundation's mission is to aid in improving the store of scientific knowledge on which future action can be based. Thus, Foundation programs, while not specifically problem or solution oriented, are of great importance in maintaining and improving the nation's ability to understand and cope with the problems relating to the human environment.

In direct support of research on one or another aspect of the environment such as atmospheric sciences, oceanography, environmental biology, earth sciences, etc., the Foundation obligated \$77,807,000 in fiscal year 1968. It is estimated that the corresponding total for FY 1969 will be approximately \$72,730,000. (The slight decrease is a result of a reduction in our total appropriation and does not represent the assignment of lower priority to these science areas.) This amounts to approximately $\frac{1}{2}$ of the Foundation's support of scientific research. More directly, the Foundation has established an Ecosystem Analysis Program within its Division of Biological and Medical Sciences. For the immediate future this Program will have as its major responsibility the administration of Foundation support of the major ecological systems studies being conducted as a part of the International Biological Program (IBP).

In addition to the support of scientific research related to the environment, another contribution of the Foundation is the training and education of young people in all of the basic science areas; including development of improved curricula, the training of teachers, and the administration of direct assistance to high ability students. Other Foundation programs with a direct bearing on U.S. long-range ability in environmental science and technology include science information activities, the application of computer techniques and technology to research and education, international cooperative scientific activities and science policy studies.

The foregoing paragraphs summarize the National Science Foundation's contributions to scientific understanding of our environment. They serve as a prelude to my specific comments on the proposed bill, S. 1075, in order to demonstrate the Foundation's long-standing support of the environmental sciences and our consequent keen interest in the development of related programs. Title I proposes "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural

resources and environmental quality." The list of activities in Section 101, paragraphs (a) through (j) would cover a broad range of ecological research and related activities to which more attention should be directed. We do not perceive any necessary conflict between the work that would be performed under these several authorities listed and research and training currently planned and in progress under support of the National Science Foundation, even though the objectives coincide to some degree with existing programs of the Foundation. However, ecological research, studies and training are performed by a number of other agencies and any new authority would necessitate a careful review of these activities.

Title II of the proposed S. 1075 would create in the Executive Office of the President a Council on Environmental Quality. As you are no doubt aware, the President has recently established a Council for Urban Affairs and has signified his intention to create a Cabinet level Council on the Quality of the Environment. I understand that Dr. DuBridge has discussed this feature of the bill with you and I would like to defer to him for comment on the proposed Council. However, as indicated above, I do believe that environmental problems are of such great importance that adequate provision should be made to provide all levels of government with the best scientific and technological base from which to make the difficult decisions regarding the best use of our environment.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration's program.

Sincerely yours,

LELAND J. HAWORTH,
Director.

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I refer to your letter of March 12, receipt of which was acknowledged on March 18, in which you requested a report on S. 1075, a bill "to authorize the Secretary of the Interior to conduct investigations, studies, surveys and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality".

It is noted that the Bill proposes to provide for a comprehensive and continuing program of study, review, and research for the purpose, among other things, of promoting and fostering means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources.

The Department of State appreciates the purpose of the Bill. However, our response here is directed only to the question of environmental quality as it affects this Department. We are not commenting on the manner in which a Council on Environmental Quality might be established and are not commenting on specific allocations of responsibility to the Secretary of the Interior.

The Department wishes to call attention to the fact, moreover, that the objective of the Bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers. Nature, technological interference, the demands of a population steadily growing in number and opulence, and sheer neglect, produce pollutants which transcend national boundaries. Pollution may be national in origin; its effects and control are international.

Growing recognition of the inter-relatedness of the world's ecosystems, on the one side, and of the common danger of pollution to human life, health and welfare, on the other, have prompted governments everywhere to take official cognizance, and where possible, counter-measures. There is legitimate fear that these problems are increasing in virulence and in their rate of incidence. There is growing awareness that many of them are shared by a number of nations, either because the same problems co-exist in different countries or because they are the result of mutual pollution. As a result governments have begun to seek remedy through joint counter-action by using either bilateral or multilateral channels.

International agencies both intergovernmental and nongovernmental including, the United Nations, ILO, FAO, WHO, WMO, UNESCO, ECE, IAEA, OECD, et al, have for some time been engaged in various programs dealing with specific problems of the environment, e.g. air pollution, water pollution, solid waste disposal, etc. A report of activities of the U.N. organization is attached. Until recently, however, none of these organizations have attacked the total spectrum of environmental problems.

Within the last two years, a number of initiatives have been launched by international agencies which reflect broader vision and which, in fact, were devised to encompass the full range of at least the principal facets of the environmental problem. Most important among these initiatives have been:

1. *The International Biological Program*, a cooperative research effort by scientists of 50 nations with the objective of making a world-wide study of organic production of the land, in fresh waters and in the sea and a world-wide study of human adaptability to the changing conditions.

2. *The Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere*, convened and organized by UNESCO, which produced 20 recommendations calling for action by governments, intergovernmental and non-governmental organizations with respect to various subjects of research; and proposed a long-term, intergovernmental and inter-disciplinary program. A copy of the Conference Report, including the recommendations is attached.

3. *The Meeting of the Preparatory Group for the Meeting of Governmental Experts on Problems Relating to the Environment*, held in February 1969 under the auspices of the Economic Commission for Europe (ECE) to prepare the agenda for a Meeting of Governmental Experts to be held at Prague, Czechoslovakia, in 1971. In keeping with the character of ECE, the conference will focus on economic aspects of the environmental problem obtaining within the ECE region (including the United States). A copy of the report of the meeting is attached.

4. *The U.N. Conference on Human Environment*. This conference was decided upon by unanimous resolution of the U.N. General Assembly on December 3, 1968 (A/Res/2398-XXIII). A copy is attached. Its rationale is the desire "to provide a framework for comprehensive consideration within the United Nations of the problems of human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question and also to identify those aspects of it that can only or best be solved through international cooperation and agreement".

Coincidental with inter-governmental initiatives, others are going forward at the non-governmental and governmental level. Among the more significant is the appointment by the International Council of Scientific Unions (ICSU) of an "Ad-Hoc Committee on Problems of the Human Environment" which will prepare a report on those man-made problems of the environment "which are of international concern" and "toward the solution of which the scientific competence represented by ICSU could effectively be applied".

The U.S. Government has participated in all the above initiatives. It has had a major share in promoting some and in formulating some of the principal conclusions and recommendations, notably by the UNESCO and ECE Conferences.

It is now actively engaged in the preparation of the U.N. Conference and has submitted its proposals on purpose, scope, objectives and agenda, as requested by the Under Secretary-General of the U.N.

The U.S. interest in the international aspects is profound and real. It is dictated by the realization that the human environment is one, and that it would be fallacious and arbitrary to divorce the international aspects from the national. It has been fully documented that air and water pollution, to mention but two, are not respecters of international boundaries. Pollutant problems now considered local in character may be regional or international tomorrow and thus we cannot afford to be indifferent nor complacent about global pollution. It is this international nature of the threat and the concomitant need for international cooperation that has already focused United States attention on the need for a broad approach to environmental problems.

Speaking to our NATO partners on April 10, 1969 President Nixon said—

"(W)e all have a unique opportunity to pool our skills, our intellects and our inventiveness in finding new ways to use technology to enhance our environments . . . recognizing that these problems have no national or regional boundaries."

Secretary of State Rogers in his appearance before the Senate Foreign Relations Committee emphasized that—

"The fact that . . . we are preparing for a world conference on the human environment is indicative of the degree to which technological development will continue to require institutionalized multilateral cooperation."

In a sense the deterioration of the environment is only one of many problems that face all nations. But, as Herman Pollack, Director of International Scientific and Technological Affairs pointed out before the House Subcommittee on Science, Research and Development, it is the one problem that accentuates and aggravates all others: population pressures, inadequate food, shelter and medical care. To arrest and reverse it, calls for the combined effort of all nations.

It is for this reason, Mr. Chairman, we suggest that with respect to any action taken on the question of environmental quality, recognition should be given to the following facts:

1. The deterioration of the national environment is part of a global process and thus requires remedial action on an international as well as national scale.

2. Study, review and research must, therefore, be extended to take into account problems and problem areas beyond national borders and to enlist the cooperation of other governments and the scientists of other nations.

3. The solution of the environmental problem being a matter of national interest as well as of international concern, U.S. participation in bilateral and multilateral programs dealing with the international aspects of the problem must be recognized as a vital part of U.S. policy to cope with environmental problems.

The Bureau of the Budget advises that from the standpoint of the Administration's program there is no objection to submission of this report.

Sincerely yours,

WILLIAM B. MACOMBER, JR.,

Assistant Secretary for Congressional Relations.

(The enclosures referred to are in the files of the Committee.)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,

May 28, 1969.

Hon. HENRY M. JACKSON,

Chairman, Committee on Interior and Insular Affairs, U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of March 12, 1969, for a report on S. 1075, a bill "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality," and your request of March 13, 1969, for a report on S. 237, a bill "To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes," and your request of April 3, 1969, for a report on S. 1752, the "Resources, Conservation and Environmental Quality Act of 1969."

S. 1075 would authorize the Secretary of the Interior directly or through grants and contracts to (1) conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) document and define changes in the natural environment; (3) develop and maintain an inventory of existing and future natural resource development projects and other major projects; (4) establish a system of collecting and receiving information and data on ecological research and evaluation which are in progress or are planned; (5) evaluate and disseminate information of an ecological nature to public and private agencies; (6) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment; (7) initiate and utilize ecological information in the planning and development of resource-oriented projects; (8) encourage other public or private agencies planning development projects to consult with the Secretary of the Interior on the impact of the proposed projects on the natural environment; (9) conduct research and studies within natural areas under Federal ownership; and (10) assist the Council on Environmental Quality that would be established under the legislation.

The bill would not give the Secretary of the Interior authority over programs

of other Departments or Agencies of the Government with respect to the natural environment.

The bill would also create in the Executive Office of the President a Council on Environmental Quality composed of three members qualified to interpret environmental trends and be conscious of and responsive to the scientific, economic, social, esthetic and cultural needs and interests of the Nation. The Council would advise and assist the President in the formulation of national policy, annually report on the condition of the environment and review program activity of Federal agencies. These functions would be carried out by studying and analyzing environmental trends and the factors that effect these trends with relation to the conservation, social, economic and health goals of the Nation.

S. 237 would require the President to annually submit to the Congress a Report on Resources, Conservation, and the Environment. The report would include the conditions of the environment and other natural resources, trends in environmental quality and management and utilization of natural resources, adequacy of natural resources to fulfill human and economic requirements, review programs and activities of Federal, State and local government and nongovernmental entities and individuals and programs to carry out the policies together with recommended legislation.

The bill would also create in the Executive Office of the President a Council of Advises on Resources, Conservation and the Environment. The function of the Council would be to (1) assist the President in preparing the Report on Resources, Conservation, and the Environment; (2) gather timely and authoritative information concerning natural resources conservation, and development of environmental quality trends; (3) appraise the various programs and activities of the Federal Government in light of the declared policy of this legislation; (4) develop and recommend to the President national policies to foster and promote conservation and improve the environment to meet human and economic requirements; (5) make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal resources policy and legislation as the President may request.

S. 237 would also establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment for the purpose of consideration of the Report on Resources, Conservation, and the Environment.

S. 1752 is very similar to S. 1075, except that in addition to containing similar provisions as S. 1075, the bill (S. 1752) contains provisions similar to those in S. 237 which would establish a joint Congressional committee to make studies on matters relating to the Environmental Quality Report, also provided for in the bill. This Congressional committee would be known as the Joint Committee on Environmental Quality.

We strongly support an appropriate mechanism for the development of a coordinated national policy on environmental quality. This Department conducts many programs concerned with the environment. These programs almost exclusively concern the effects of environmental stress on human health and welfare. Included in these programs are activities concerned with the effect of environmental forces on man in his home, in the community, and in the workplace, and the environment as it relates to products used by man and their effect on him.

In conducting these programs we have many relationships with other Federal agencies. Some of these are formalized such as that between this Department and the Department of the Interior regarding the public health aspects of water pollution control where the relationship is established by law. Other working relationships are less formal and include, for example, cooperative undertakings conducted through interagency agreements and participation in the activities of committees established under the Federal Council on Science and Technology.

As concern with environmental quality matters has grown and as more Federal agencies have become extensively involved with protecting and improving the environment, it has become obvious to this Department that there is a need for better planning and coordination of the numerous activities in the environmental area by both the Executive and Legislative Branches of the Government. We are therefore fully in agreement with the objectives of these bills to establish a mechanism for planning and coordinating the environmental quality programs of the Nation.

We are in favor of the objectives in these bills to create in the Executive Office of the President a Council to advise his on matters pertaining to the environment. We would prefer the flexibility of a Council set up administratively.

The Administration is now considering the establishment of a Council in this manner. Consequently, we do not recommend enactment of the provisions in these bills which would establish by statute such a Council in the Executive Department.

In regard to the provision of S. 237 which would establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment, and the provision in S. 1752 which would establish a Joint Committee on Environmental Quality, we note there is similar legislation before the Congress such as S. Res. 78, "To establish a Select Committee on Technology and the Human Environment." We defer to the Congress concerning the establishment of this special committee.

With respect to the authorizations in S. 1075 and S. 1752 for the Department of the Interior to conduct studies and research relating to ecological systems and environmental quality, we should like to point out that there are a number of agencies in the Executive Branch which already have missions and responsibilities bearing on this overall problem. We believe careful consideration and review of all agency activities is needed prior to the enactment of any new authorizations; and such a review is contemplated by the Council referred to above. We note incidentally that both S. 1075 and S. 1752 include provisions specifically stating that the authorizations provided the Department of the Interior would in no way restrict or modify any authority of any other Department or agency of the Government.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

ROBERT H. FINCH, *Secretary*.

STATEMENT OF MYRON TRIBUS, ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY

Mr. Chairman and Members of the Committee, as a former resident of Los Angeles, I am pleased to present the views of the Department of Commerce on S. 237, S. 1075, and S. 1752, all of which deal with environmental quality. I can well remember teaching a class in engineering and noticing that one of the students was sitting with a strange expression on his face while tears rolled down his cheek. I stopped the lecture and went over to him and said softly, "Have you had some sort of personal difficulty? I notice that you are weeping." He said to me, "No sir, it's this smog, it's killing me."

In discussing air and water pollution, it is useful to begin by remembering that the earth is surrounded by a relatively thin envelope of fluid, some of it gaseous, and some of it liquid. The debris of what has been called the "effluent society" is dumped into streams of air and streams of water and is carried large distances. A factory discharging particles may deposit tons of dirt downstream. It may also introduce ice nuclei into the atmosphere and change the weather. An airplane dusting crops may leave small particles of pesticides in the air to be blown over natural foliage many miles away.

Most of us live in a man-made world and we are only now beginning to realize that the impact of man on his environment—by the burning of fossil fuels, by the expansion of cities, by the flight of aircraft, and by the launching of space vehicles—may inadvertently and adversely modify our weather and climate.

As I said in the beginning, the earth is surrounded by fluids and it is the motion of these fluids which carries the pollutants from their source to the places where the damage is done. We in the Department of Commerce have been charged with responsibilities to observe, measure, monitor and predict the state of this fluid environment. The Department has statutory responsibility for maintaining the Nation's system for monitoring and predicting the state of the atmosphere and the ocean as well as maintaining historical records reflecting changes in our environment.

Concern over environmental quality within the Department of Commerce is reflected in a wide range of activities. I would like to review briefly our interest and outline several of the areas in which we are providing support. A number of our administrations and bureaus are involved in this effort. These include the Environmental Science Services Administration (ESSA), the National Bureau of Standards, the Maritime Administration, the Business and Defense Services Administration and the Economic Development Administration.

For proper assessment of the future of our natural environment it is necessary to observe and measure its present state, to predict its future course and condition, and to study through simulation the impact of man's activities on the environment. In its role of monitoring the sea and the atmosphere throughout its entire depth, the Environmental Science Services Administration (ESSA) is making a strong contribution to our knowledge of the environment, and will be able to assess changes likely to occur in the future. Environmental Science Services Administration provides strong support to Federal, State and local programs in the control of both air and water pollution. In the case of air pollution one of the most important aspects is the ability of the atmosphere to disperse and carry away pollutants. Forecasts of air pollution potential are made daily for the Nation and distributed to all interests. A new program for "on the scene" support to State and local pollution control agencies is being implemented in cooperation with the Department of Health, Education and Welfare.

Under the plan Weather Bureau meteorological support units will be established in some 40 of the air pollution control regions established by Health, Education and Welfare. Forecasts of the flow of the Nation's rivers are also made daily by the Weather Bureau. These forecasts will assist materially in controlling the release of pollutants in accordance with the dispersive capacity of these rivers. Tidal currents into and out of bays and estuaries are measured by the Coast and Geodetic Survey. The Survey also maps the bottom topography of these areas at periodic intervals. Such data will contribute to the control of estuarine pollution. In addition a start has been made toward the prediction of "estuarine flushing" for controlling the release of pollution. In quite a different field Environmental Science Services Administration maintains an observatory near the summit of Mauna Loa in Hawaii to monitor the increasing pollution load of the world's "clean" air, and thus assist in evaluating possible adverse effects on climate. With support by Health, Education and Welfare and the Atomic Energy Commission, Environmental Science Services Administration scientists conduct a broad research program in measuring and predicting the dispersive capabilities of the atmosphere.

The physical and chemical laboratories of the National Bureau of Standards (NBS) are working on numerous problems associated with environmental quality. The development of standards for measurement of air pollutants represents one aspect of this work. Also important are the studies being made of the chemical reactions which take place among pollutants after they are in the atmosphere and exposed to sunlight. Studies of combustion are leading to a better knowledge of means for controlling sulfur pollutants. Standards for the sulfur content of oil are being developed. Standard reference samples for assessing radiation from radioactive substances are being distributed. Noise as an environmental problem is receiving increased attention. Architectural practices for alleviating building noise have been developed, and an extensive architectural sound laboratory is on the drawing boards. A major effort is focused on developing techniques for the detection of a variety of air, water and soil pollutants. Studies are under way on the corrosion and deterioration of materials and structures due to pollution. Altogether some 50 separate projects in the National Bureau of Standards relate to environmental quality.

Our Economic Development Administration continues to assist in the improvement of environmental quality. During the past three years grants and loans of around \$50 million have been made for sewage treatment facilities across the Nation, and approximately \$250 million have been made available for new or improved water and sewer systems. Grants are also made to assist in the development of recreation areas in support of the tourist industry.

The Business and Defense Services Administration is deeply concerned with the purposes of this proposed legislation. Control or abatement policies designed to improve the quality of our environment will have a far-reaching effect upon the operations of many industries, which have shown an awareness of the need for environmental quality improvement. Industry has already done much in recent years to reduce the level of air and water pollution to meet reasonable standards.

The following examples of our current and recent research activities illustrate the range of the Business and Defense Services Administration interest in the environmental quality problems of industry. The Business and Defense Services Administration has surveyed the availability of gas cleaning equipment for use in air pollution abatement by industry, and has further studied the economic impact of air pollution control on both the gray iron foundry industry and the secondary non-ferrous metals industry. In the area of water pollution, studies

are being made of the relationship of industrial water use to the conservation of water resources by increased reusability of water through quality control. This is being done in association with other agencies and commissions concerned with pollution abatement. Studies have been made of the economic and environmental problems of the auto wrecking and salvage business to develop programs, in cooperation with other agencies, to help rid the country of unsightly junked auto yards.

Business and Defense Services Administration has participated actively in an interdepartmental survey of the problem and costs involved and actions required to assure that the locating of utility transmission and distribution lines and of utility plants is compatible with environmental values.

In the Maritime Administration development is under way on systems and equipment for separation of oil from water to permit ships to discharge bilge and ballast water into the sea while maintaining a minimum of 100 parts per million of oil content. This system will include accurate and reliable instrumentation for monitoring the quality of such discharges.

I would now like to comment on the three bills before this Committee: S. 237, S. 1075, and S. 1752.

While the Department supports the objectives of each of these bills, we are opposed to their enactment at this time for the following reasons.

Title I of S. 1075 and Title I of S. 1752 would assign certain functions respecting the accumulation and evaluation of environmental data to the Secretary of the Interior. These functions may in some instances overlap the statutory responsibilities of this Department and other agencies. Consequently, we feel that a careful review of existing authorities should be undertaken before the need for additional legislation can be properly assessed.

Each of the bills under consideration would establish within the Executive Office of the President an Advisory Council composed of members appointed by the President by and with the advice and consent of the Senate. The functions and duties of the Council would include: studying and analyzing environmental trends, and the factors affecting such trends; advising the President on the formulation of national policies; appraising Federal activities; and issuing periodic reports.

The need for an Advisory Council on the environment has been recognized by the President and steps have already been taken towards its establishment. The Department of Commerce would expect to provide substantial support to the work of this Council. Furthermore, the Council could assist the President in coordinating the activities of the several agencies in providing direction for an integrated national effort. I believe this approach is preferable and that specific legislation authorizing the establishment of an Environmental Quality Council is unnecessary.

In conclusion, I note that Title III of S. 1752 would establish a Joint Committee on Environmental Quality to receive and consider the President's environmental quality report, while Section 5 of S. 237 would establish Select Committees in the House and in the Senate for the same purpose. Since this is a matter of internal organization of the Congress, the Department makes no recommendation with respect to these provisions.

[S. 1752, 91st Cong., first sess.]

A BILL To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION. 1. This Act may be cited as the "Resources, Conservation and Environmental Quality Act of 1969".

DECLARATION OF POLICY

SEC. 2. It is the purpose of this Act to produce an understanding of the Nation's natural resources and the environmental forces affecting them, to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, and to create and maintain a

national policy and conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans through a comprehensive and continuing program of study, research, review, and coordination.

TITLE I—ECOLOGICAL RESEARCH

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

- (1) to conduct investigations, studies, surveys, research, and analyses;
- (2) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;
- (3) to develop and maintain an inventory of natural resource development projects, including reclamation projects, engineering works, and other major projects such as, but not limited to, eradication projects contemplated or planned by public or private agencies or organizations which may make significant modifications in the natural environment;
- (4) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;
- (5) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;
- (6) to initiate and utilize ecological information in the planning and development of resource-oriented projects;
- (7) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;
- (8) to encourage and assist public (non-Federal) or private agencies or organizations, including educational institutions, museums, and botanical and zoological gardens, and other scientific or conservation organizations, or individuals, to acquire, designate, and maintain representative samples of important natural environmental systems, including natural areas for observation and for manipulation, and to encourage such agencies, organizations, and individuals to utilize existing areas under their control or jurisdiction for such purposes;
- (9) to establish through interagency coordination, on federally owned lands, a Federal system of natural areas for scientific purposes and develop the means and methods for withdrawal of such areas from nonconforming uses, and provide for their management and protection to serve the natural research needs of all agencies, both public and private; except that in developing standards governing any such withdrawals, the Secretary shall give due consideration to future alternative uses of such areas subject to withdrawal; and
- (10) to assist and advise the Council on Environmental Quality established under title II of this Act.

SEC. 102. The Secretary is further authorized for the purposes of this title (1) to make grants and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, (2) to accept and use donations of funds, property, personal services, or facilities, (3) to acquire selected areas of lands or interests in lands by donation, acquisition with donated funds, devise, or exchange for acquired lands or public lands under his jurisdiction which he finds suitable for disposition, (4) to administer such lands or interests for experimental purposes, including the observation and manipulation of natural areas, and (5) to issue such regulations as he deems necessary with respect to the administration of such lands.

SEC. 103. Activities authorized under this title may be carried out on lands under the jurisdiction or control of other departments or agencies of the Government only with the approval of the head of the department or agency concerned.

SEC. 104. The Secretary shall consult with and provide technical assistance to departments and agencies of the Government, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate, and which can reasonably be furnished by such departments and agencies in carrying out the purposes of

this title. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 105. Nothing in this title is intended to give, or shall be construed as giving, the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purpose of identifying and eliminating duplication of effort.

SEC. 106. (a) The Secretary is authorized to establish such advisory committees as he deems desirable for the purpose of rendering advice and submitting recommendations to him relating to the carrying out of the purposes of this title. Such advisory committees shall render advice and submit recommendations to the Secretary upon his request and may submit recommendations to the Secretary at any time on their own initiative. The Secretary may designate employees of the Department of the Interior to serve as secretaries to the committee.

(b) Members of advisory committees appointed by the Secretary may receive not to exceed \$100 per day when engaged in the actual performance of their duties, in addition to reimbursement for travel, subsistence, and other necessary expenses incurred by them in the performance of their duties.

SEC. 107. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

TITLE II—COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. (a) There is hereby created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate, each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise the environmental quality programs of Federal, State, and local governments, and to formulate and recommend national policy to promote the improvement of the quality of the environment.

(b) The Council may employ such officers and employees as may be necessary to carry out its functions under this title. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this title, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

(c) It shall be the principal duty of the Council to develop comprehensive national policies and programs to improve and maintain the quality of the environment needed to meet the emerging conservation, social, economic, material, and other requirements of the Nation.

(d) In addition to those in subsection (c), it shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the environmental quality report required to be transmitted under section 202;

(2) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and prospective, to analyze and interpret such information and to compile and submit to the President studies relating to such conditions and trends;

(3) to appraise the various programs and activities of the Federal Government (including proposed programs and activities) for the purpose of determining the extent to which such programs and activities affect environmental quality, and to make recommendations to the President with respect thereto;

(4) to make and furnish such studies, reports, and recommendations with respect to matters of policy and legislation as the President may request; and

(5) to foster study and research in the social, technical, administrative, economic, political, and other aspects of environmental quality at institutions of higher learning throughout the Nation.

(e) In exercising its powers, functions, and duties under this title—

(1) the Council shall, on or before December 1, 1969, make a written report to the President, which report shall contain a comprehensive and detailed account of all the activities of the Council since its establishment, together with its conclusions, findings, and recommendations, and shall thereafter, on or before December 1 of each year, make such a report to the President covering any period not covered by such a report previously submitted;

(2) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, State and local governments, and other organizations and groups, as it deems advisable; and

(3) the council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies, organizations, and individuals, in order that duplication of effort and expense may be avoided.

SEC. 202. The President shall transmit to the Congress on or before January 20 of each year, an environmental quality report which shall set forth (1) the status and condition of the major natural, manmade or altered environmental systems of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dry land, wet land, range, urban, suburban, and rural environment; (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; and (3) his recommendations on the formulation and implementation of national policies to protect and enhance the quality of the environment.

TITLE III—JOINT COMMITTEE ON ENVIRONMENTAL QUALITY

SEC. 301. (a) There is hereby established a joint congressional committee which shall be known as the Joint Committee on Environmental Quality. The joint committee shall be composed of eight Members of the Senate, to be appointed by the President of the Senate, and eight Members of the House of Representatives, to be appointed by the Speaker of the House of Representatives. In each case, the majority party shall be represented by five members and the minority party shall be represented by three members. The joint committee shall select a chairman and a vice chairman from among its members.

(b) Vacancies in the membership of the committee shall not affect the authority of the remaining members to execute the functions of the committee.

(c) A majority of the members of the committee shall constitute a quorum thereof for the transaction of business, except that the committee may fix a lesser number as a quorum for the purpose of taking sworn testimony.

(d) No legislative measure shall be referred to the committee, and it shall have no authority to report any such measure to the Senate or the House.

SEC. 302. It shall be the duty of the joint committee to—

(1) conduct a comprehensive study and investigation of appropriate matters contained in any environmental quality report transmitted to the Congress pursuant to title I of this Act and of such matters related thereto as will provide means of coordinating programs in order to further the purposes of this Act, and recommend any such studies and investigations to the appropriate standing committees of the Congress; and

(2) make an annual report to the Congress and the appropriate committees of Congress on or before March 1 of each year on the environmental quality report transmitted to the Congress pursuant to title I of this Act, which report shall contain the findings and recommendations of the committee with respect to the views and recommendations of the President contained in such environmental quality report, and to make, from time to time, such additional reports to the Congress and the appropriate committees of Congress concerning the results of the committee's studies and investigations, together with its recommendations, as it may deem desirable.

SEC. 303. (a) In carrying out its duties under this title, the committee, or any duly authorized subcommittee thereof, is authorized to hold such hearings; to sit and act within or outside the United States at such times and places; to require by subpoena or otherwise the attendance of such witnesses and the production of such books, papers, and documents; to administer such oaths; to take such testimony; to procure such printing and binding; and to make such

expenditures as it deems advisable. The committee may make such rules respecting its organization and procedure as it deems necessary.

(b) Subpenas may be issued over the signature of the chairman of the committee or by any member designated by him or the committee, and may be served by such person as may be designated by such chairman or member. The provisions of sections 102-104 of the Revised Statutes (2 U.S.C. 192-194) shall apply in the case of any failure of any witness to comply with a subpoena or to testify when summoned under authority of this section.

SEC. 304. (a) The committee is authorized to appoint and fix the compensation of such experts, consultants, technicians, and staff employees as it deems necessary and advisable.

(b) Members of the committee, and its employees and consultants, while traveling on official business for the committee within or outside the United States, may receive either the per diem allowance authorized to be paid to Members of the Congress or its employees, or their actual and necessary expenses provided an itemized statement of such expenses is attached to the voucher.

SEC. 305. The expenses of the committee shall be paid from the contingent fund of the Senate from funds appropriated for the committee, upon vouchers signed by the chairman of the committee or by any member of the committee duly authorized by the chairman.

TITLE IV—APPROPRIATIONS

SEC. 401. There are hereby authorized to be appropriated for the fiscal year beginning July 1, 1969, and for each of five succeeding fiscal years, such amounts as may be necessary for the purposes of this Act.

DEPARTMENT OF STATE,
Washington, D.C., April 24, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I refer to your letter of April 3, receipt of which was acknowledged on April 8, in which you requested a report on S. 1752, a bill "to authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes".

It is noted that the Bill proposes to provide for a comprehensive and continuing program of study, review, and research for the purpose, among other things, of promoting and fostering means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources.

The Department of State appreciates the purpose of the Bill. However, our response here is directed only to the question of environmental quality as it affects this Department. We are not commenting on the manner in which a Council on Environmental Quality might be established and are not commenting on specific allocations of responsibility to the Secretary of the Interior.

The Department wishes to call attention to the fact, moreover, that the objective of the Bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers. Nature, technological interference, the demands of a population steadily growing in number and opulence, and sheer neglect, produce pollutants which transcend national boundaries. Pollution may be national in origin: its effects and control are international.

Growing recognition of the interrelatedness of the world's ecosystems, on the one side, and of the common danger of pollution to human life, health and welfare, on the other, have prompted governments everywhere to take official cognizance, and where possible, counter-measures. There is legitimate fear that these problems are increasing in virulence and in their rate of incidence. There is growing awareness that many of them are shared by a number of nations, either because the same problems co-exist in different countries or because they are the result of mutual pollution. As a result governments have begun to seek

remedy through joint counter-action by using either bilateral or multilateral channels.

International agencies both intergovernmental and non-governmental including, the United Nations, ILO, FAO, WHO, UNESCO, ECE, WMO, IAEA, OECD, et al, have for some time been engaged in various programs dealing with specific problems of the environment, e.g. air pollution, water pollution, solid waste disposal, etc. A report of activities of the U.N. organization is attached (Tab A). Until recently, however, none of these organizations have attacked the total spectrum of environmental problems.

Within the last two years, a number of initiatives have been launched by international agencies which reflect broader vision and which, in fact, were devised to encompass the full range of at least the principal facets of the environment problem. Most important among these initiatives have been:

1. *The International Biological Program*, a cooperative research effort by scientists of 50 nations with the objective of making a world-wide study of organic production of the land, in fresh waters and in the sea and a world-wide study of human adaptability to the changing conditions.

2. *The Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere*, convened and organized by UNESCO, which produced 20 recommendations calling for action by governments, intergovernmental and non-governmental organizations with respect to various subjects of research; and proposed a long-term, intergovernmental and interdisciplinary program. A copy of the Conference Report, including the recommendations is attached (Tab B).

3. *The Meeting of the Preparatory Group for the Meeting of Governmental Experts on Problems Relating to the Environment*, held in February 1969 under the auspices of the Economic Commission for Europe (ECE) to prepare the agenda for a Meeting of Governmental Experts to be held at Prague, Czechoslovakia, in 1971. In keeping with the character of ECE, the conference will focus on economic aspects of the environmental problem obtaining within the ECE region (including the United States). A copy of the report of the meeting is attached (Tab C).

4. *The U.N. Conference on Human Environment*. This conference was decided upon by unanimous resolution of the U.N. General Assembly on December 3, 1968 (A/Res/2398-XXIII). A copy is attached (Tab D). Its rationale is the desire "to provide a framework for comprehensive consideration within the United Nations of the problems of human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question and also to identify those aspects of it that can only or best be solved through international cooperation and agreement".

Coincidental with intergovernmental initiatives, others are going forward at the non-governmental and governmental level. Among the more significant is the appointment by the International Council of Scientific Unions (ICSU) of an "Ad-Hoc Committee on Problems of the Human Environment" which will prepare a report on those man-made problems of the environment "which are of international concern" and "toward the solution of which the scientific competence represented by ICSU could effectively be applied".

The U.S. Government has participated in all the above initiatives. It has had a major share in promoting some and in formulating some of the principal conclusions and recommendations, notably by the UNESCO and ECE Conferences.

It is now actively engaged in the preparation of the U.N. Conference and has submitted its proposals on purpose, scope, objectives and agenda, as requested by the Under Secretary-General of the U.N.

The U.S. interest in the international aspects is profound and real. It is dictated by the realization that the human environment is one, and that it would be fallacious and arbitrary to divorce the international aspects from the national. It has been fully documented that air and water pollution, to mention but two, are not respecters of international boundaries. Pollutant problems now considered local in character may be regional or international tomorrow and thus we cannot afford to be indifferent nor complacent about global pollution. It is this international cooperation that has already focused United States attention on the need for a broad approach to environmental problems.

Speaking to our NATO partners on April 10, 1969 President Nixon said—

"(W)e all have a unique opportunity to pool our skills, our intellects and our inventiveness in finding new ways to use technology to enhance our environments . . . recognizing that these problems have no national or regional boundaries."

Secretary of State Rogers in his appearance before the Senate Foreign Relations Committee emphasized that—

"The fact that . . . we are preparing for a world conference on the human environment is indicative of the degree to which technological development will continue to require institutionalized multilateral cooperation."

In a sense the deterioration of the environment is only one of many problems that face all nations. But, as Herman Pollack, Director of International Scientific and Technological Affairs, pointed out before the House Subcommittee on Science, Research and Development, it is the one problem that accentuates and aggravates all others: population pressures, inadequate food, shelter and medical care. To arrest and reverse it, calls for the combined efforts of all nations.

It is for this reason, Mr. Chairman, we suggest that with respect to any action taken on the question of environmental quality, recognition should be given to the following facts:

1. The deterioration of the national environment is part of a global process and thus requires remedial action on an international as well as national scale.

2. Study, review and research must, therefore, be extended to take into account problems and problem areas beyond national borders and to enlist the cooperation of other governments and the scientists of other nations.

3. The solution of the environmental problem being a matter of national interest as well as of international concern, U.S. participation in bilateral and multilateral programs dealing with the international aspects of the problem must be recognized as a vital part of U.S. policy to cope with environmental problems.

The Bureau of the Budget advises that from the standpoint of the Administration's program there is no objection to submission of this report.

Sincerely yours,

WILLIAM B. MACOMBER, Jr.,
Assistant Secretary for Congressional Relations.

NATIONAL SCIENCE FOUNDATION.

OFFICE OF THE DIRECTOR,
Washington, D.C., May 21, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in further reply to your letter of April 3, 1969, requesting comments of the National Science Foundation on S. 1752, "To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes."

Titles I and II of S. 1752 are virtually identical with S. 1075 on which we commented to you at the time of your hearings on that bill in a letter dated April 22, 1969. Our views on Titles I and II are the same as set forth in that letter, a copy of which is enclosed.

With respect to Titles III and IV of S. 1752, the Foundation would generally favor any measure aimed at facilitating more effective consideration by the Congress of matters relating to environmental quality. We do not, however, consider ourselves qualified to comment on specific organizational proposals internal to the Congress.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the standpoint of the Administration's program

Sincerely yours,

LELAND J. HAWORTH, *Director.*

[S. 237, 91st Cong., first sess.]

A BILL To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SHORT TITLE

SECTION 1. This Act may be cited as the "Resources, Conservation, and Environmental Quality Act of 1969".

DECLARATION OF POLICY

SEC. 2. The Congress hereby declares that it is the continuing policy and responsibility of the Federal Government, with the assistance and cooperation of industry, agriculture, labor, conservationists, State and local governments, and private property owners, to use all practicable means including coordination and utilization of all its plans, functions, and facilities, for the purpose of creating and maintaining, in a manner calculated to foster and promote the general welfare, the quality of the environment in our Nation and conditions under which there will be conservation, development, and utilization of natural resources to meet human, economic, and national defense requirements, including recreational, wildlife, scenic, and scientific values and the enhancement of the national heritage for future generations.

RESOURCES AND CONSERVATION REPORT OF THE PRESIDENT

SEC. 3. (a) The President shall transmit to the Congress not later than January 20 of each year (commencing with the year following enactment of this Act) a report (hereinafter called the Report on Resources, Conservation, and the Environment) setting forth (1) the condition of the environment and of natural resources including soil, water, air, forest, grazing, mineral, wildlife, recreational, and other natural resources with particular reference to attainment of multiple-purpose use; (2) current and foreseeable trends in environmental quality and in management and utilization of natural resources; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation; (4) a review of the programs and activities of the Federal Government, the State and local governments, and nongovernmental entities and individuals with particular reference to their effect on the environment and full conservation, development, and utilization of natural resources; (5) a program for carrying out the policy declared in section 2, together with such recommendations for legislation as he may deem necessary or desirable: *Provided*, That in the preparation of such annual reports, the President may submit major assessments or reassessments of the supply-demand situations on individual resources at such intervals as he determines to be appropriate.

(b) The President may transmit from time to time to the Congress reports supplementary to the Report on Resources, Conservation, and the Environment, each of which shall include such supplementary or revised recommendations as he may deem necessary or desirable to achieve the policy declared in section 2.

The Report on Resources, Conservation, and the Environment, and all supplementary reports transmitted under subsection (b), shall, when transmitted to Congress, be referred in each House to the special committee created by section 5.

COUNCIL OF ADVISERS TO THE PRESIDENT ON RESOURCES, CONSERVATION AND THE ENVIRONMENT

SEC. 4. (a) There is hereby created in the Executive Office of the President a Council of Advisors on Resources Conservation, and the Environment (hereinafter called the Council). The Council shall be composed of three members who shall be appointed by the President, by and with the advice and consent of the Senate, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret policies affecting natural resources and the environment, to appraise programs and activities of the Government in the light of the policy declared in section 2, and to formulate and recommend policy to promote conservation, development, and utilization of natural resources and improvement of the human environment. Each member of the Council shall receive compensation at the rate of \$—— per annum. The President shall designate one of the members of the Council as Chairman and one as Vice Chairman, who shall act as Chairman in the absence of the Chairman.

(b) The Council is authorized to employ, and fix the compensation of an executive officer and such staff assistants and other experts as may be necessary for the carrying out of its functions under this Act, without regard to the civil service laws and the Classification Act of 1923, as amended, and is authorized, subject to the civil service laws, to employ such other officers and employees as may be necessary for carrying out its functions under this Act,

and fix their compensation in accordance with the Classification Act of 1923, as amended.

(c) It shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the Report on Resources, Conservation, and the Environment;

(2) to gather timely and authoritative information concerning natural resource conservation, and development and environmental quality trends, both current and prospective, to analyze and interpret such information in the light of the policy declared in section 2 for the purpose of determining whether such development and trends are interfering, or are likely to interfere, with the achievement of such policy, and to compile and submit to the President studies relating to such developments and trends;

(3) to appraise the various programs and activities of the Federal Government in the light of the policy declared in section 2 for the purpose of determining the extent to which such programs and activities are contributing, and the extent to which they are not contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote conservation, development, and utilization of the natural resources of the Nation and to maintain and improve the environment to meet human and economic requirements, including recreational, wildlife, and scenic values; and

(5) to make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal resource policy and legislation as the President may request.

(d) The Council shall make an annual report to the President in December of each year, who shall forward it to Congress with his Report on Resources, Conservation, and the Environment.

(e) In exercising its powers, functions, and duties under this Act—

(1) the Council may constitute such advisory committees and may consult with such representatives of industry, agriculture, labor, conservationists, State and local governments, and other groups, as it deems advisable; and

(2) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of other Government agencies as well as of private research agencies, in order that duplication of effort and expense may be avoided.

(f) To enable the Council to exercise its powers, functions, and duties under this Act, there are authorized to be appropriated such sums as may be necessary.

SELECT COMMITTEES OF CONGRESS ON THE RESOURCES AND CONSERVATION REPORT

SEC. 5. (a) For the purpose of consideration of the Report on Resources, Conservation, and the Environment, there shall be established in the Senate and in the House of Representatives a special committee on such report to be known as the Select Committee on Resources, Conservation, and the Environment. Such select committee in the Senate shall be made up of the chairman and the ranking majority and minority members from each of the Committees on Interior and Insular Affairs, Public Works, Agriculture and Forestry, and Commerce. Such select committee in the House of Representatives shall be made up of the chairman and the ranking majority and minority members from each of the Committees on Interior and Insular Affairs, Public Works, Agriculture, and Interstate and Foreign Commerce. The President pro tempore in the Senate, and the Speaker in the House of Representatives, shall designate the chairman and vice chairman of each such committee, in their respective bodies and shall call the first meeting thereof within thirty days of the receipt in the Senate or the House of Representatives, respectively, of the Report on Resources, Conservation, and the Environment.

(b) Each such select committee may—

(1) make studies of appropriate matters contained in the Report on Resources, Conservation, and the Environment or of such matters related thereto as will promote the purposes of this Act, or recommend any such studies to the appropriate standing committees of its respective House; and

(2) make such reports on resources and conservation matters and on studies undertaken by it to its respective House as it deems advisable.

(c) For the purposes of this section such select committees may (1) hold hearings; (2) sit and act at such times and places during the sessions, recesses,

and adjourned periods of its respective House; (3) require by subpoena or otherwise the attendance of witnesses and the production of correspondence, books, papers, and documents; (4) administer oaths; (5) take testimony either orally or by deposition; (6) employ such technical, clerical, and other assistants and consultants and, with the prior consent of the executive agency concerned and the Committee on Rules and Administration in the case of the Senate select committee or the Committee on House Administration in the case of the House select committee, employ on a reimbursable basis such executive branch personnel as it deems advisable.

(d) A quorum of each such select committee shall consist of seven members, except that the committees may provide that for the purpose of taking testimony a lesser number shall constitute a quorum.

(e) The expenses of each such select committee shall be paid from the contingent fund of its respective House upon vouchers approved by the chairman pursuant to resolutions of the respective bodies authorizing such expenditures.

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, June 3, 1969.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate.

DEAR MR. CHAIRMAN: This is in response to your requests for reports on S. 237, a bill "To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes"; and S. 1752, a bill "To authorize the Secretary of the Interior to conduct studies, surveys, and research relating to the Nation's natural resources, and ecological systems; to establish a Council on Environmental Quality, and for other purposes."

The Department of Agriculture recommends that S. 237 and S. 1752 not be enacted.

S. 237 would provide for an annual Resources, Conservation, and the Environment Report of the President, creation of a Council of Advisors to the President on Resources, Conservation and the Environment, and establishment of Select Committees of Congress on the Resources, Conservation, and the Environment Report. S. 1752 would authorize the Secretary of the Interior to conduct a broad ecological research program, establish a Council on Environmental Quality in the Executive Office of the President and establish a Joint Congressional Committee on Environmental Quality.

On April 15, 1969 we sent you a report on S. 1075, Title I of which is similar to Title I of S. 1752. These titles would authorize the Secretary of the Interior to conduct an ecological research program. In our report on S. 1075 we indicated that the broad scope of authorities the bill would provide the Secretary of the Interior would substantially overlap and duplicate the activities of a number of other agencies and Departments which conduct environmental programs. Our comments on Title I of S. 1075 are applicable to Title I of S. 1752. We believe that prior to establishment of new authority, a careful and comprehensive review of present activities, priorities, and capabilities of the agencies concerned is needed.

S. 237 and Title II of S. 1752 would create in the Executive Office of the President a Council of Advisors dealing with natural resources and the environment. The provisions are similar in purpose to Title II of S. 1075. As we indicated in our report on S. 1075, we support the objective of creating a Council on Environmental Quality. However, the President has announced his intention to establish an environmental quality council within the Executive Office of the President. Such a council, we believe, will be able to assist and advise the President on national policies in the field of the environment and conduct an assessment of current activities in this area.

Since the proposals for a Select or Joint Congressional Committee dealing with environmental quality are a matter for Congressional consideration, we have no comments on section 5 of S. 237 or on Title III of S. 1752.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

CLARENCE D. PALMBY,
Acting Secretary.

The CHAIRMAN. At this point in the hearing record I would also insert the statement from the Congressional Record of February 18 when I introduced this legislation.

(The statement referred to follows:)

[Congressional Record, Feb. 18, 1969]

S. 1075—INTRODUCTION OF BILL TO ESTABLISH A NATIONAL STRATEGY FOR THE MANAGEMENT OF HUMAN ENVIRONMENT

Mr. JACKSON. Mr. President, I am today introducing legislation which has as its purpose the establishment of a national strategy for the management of the human environment.

The purpose of this legislation is to lay the framework for a continuing program of research and study which will insure that present and future generations of Americans will be able to live in and enjoy an environment free of hazards to mental and physical well-being.

This measure, if enacted, would place a new emphasis on two aspects of Federal efforts in this critically important field:

First, title I of the proposed legislation authorizes the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems and environmental quality. It is critically essential that basic research in this neglected area be properly funded and immediately undertaken. The data and the knowledge necessary to an understanding of man's impact on the environment is needed before Government and private industry can make knowledgeable decisions about how their activities and decisions affect man-environment relationships.

The need for basic research may be seen in connection with the current controversies over the short- and long-term impact of chemicals and pesticides on both human and animal life. Another example is the need for research on the social and legal aspects of weather modification, so that appropriate controls over the use of this emerging technology may be developed.

A contemporary example which has aroused great public concern in recent weeks is the Santa Barbara oil spill. An editorial in the February 14, 1969, issue of the Washington Post stated in part:

"It is often man's crass indifference to the consequences of technological advance in exploiting nature which is leading to the despoiling of nature. That is to say, the gains from technology seem to run only one way—to profits rather than to preservation of a planet on which man can comfortably live."

The editorial went on to say:

"The time has come to turn around the thesis under which natural resources have long been regarded. Instead of deciding that we must exploit them because we are technically able to do so, we ought to postpone exploiting them until the need is great or our knowledge of what damage exploitation may do is substantially larger."

In my judgment, more must be done, and it must be done soon, if we are to develop the data and the knowledge necessary to an understanding of the impact of man and his intrusive technology upon an environment that is unceasingly subject to growing pressures.

Second, title II of the bill would establish in the Office of the President a Council on Environmental Quality to study and analyze environmental trends; the factors that affect these trends; and how they relate to the conservation, social, economic, and health goals of the Nation. The Council would also advise and assist the President on the formulation of national policies to foster and promote the improvement of environmental quality, and in the preparation of an annual report on the quality of the environment as required by section 203 of the bill.

It is my judgment that a more effective process of policy review on matters affecting our entire biological and physical resources can be achieved by establishing a forum in the Office of the President for the consideration of alternative solutions to all environmental problems.

Our present governmental institutions are not designed to deal in a comprehensive manner with problems involving the quality of our surroundings and man's relationship to the environment. The responsibilities and functions of government institutions as presently organized are extremely fractionated. We have, for example, separate agencies and separate policies on shipping, fisheries, mines, forests, and water resource development. At some point in our history we felt it was wise to organize Government around these concepts. This organization

reflects our early national goals of resources exploitation, economic development, and conquest.

Our national goals have, however, changed a great deal in recent years. Today Government organization does not reflect this change in objectives and the new demands which are being placed on the environment.

At present the Federal programs of significant concern to environmental management are scattered throughout 11 of the major executive departments and 16 independent agencies. The problems of coordination and control are obvious. In my judgment, it is clear that new approaches are required if we are to be successful in the management of our future environment. Better concepts and better institutions must be designed to supplement the programs and goals of existing agencies.

I introduced similar legislation during the second session of the last Congress on behalf of Senator Thomas Kuchel and myself. The text of the bill as introduced in the 90th Congress, together with other relevant materials, may be found at page S18808 of the December 15, 1967, Congressional Record. Further materials from various sources discussing the need for a national strategy on environmental management may be found at page S959 of the February 6, 1968, Congressional Record.

One of the major problems which any effort to undertake a meaningful study of environmental and natural resource administration faces is that the subject spans the jurisdiction of many of the major committees of the Congress. In an effort to begin the process of review without impinging upon the legitimate legislative and jurisdictional interests of any committee of the Congress, Congressman George Miller, chairman of the House Science and Astronautics Committee, and I served as cochairmen for the purpose of convening a unique and highly successful Joint House-Senate colloquium to discuss a national policy for the environment last July 17, 1968. The participants at the colloquium included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurence S. Rockefeller, Dean Don K. Price, of Harvard, and many concerned Members of the Congress. A varied group of scholars and Government officials also submitted statements and reports on the need for a national environmental policy and offered suggestions as to the content of such a policy.

The colloquium considered the broad policy implications of environmental legislation that had been introduced in the 90th Congress. More than 120 Members had introduced bills which were referred to 19 separate committees of both the House and Senate. Most of these measures dealt with individual resource management problems, environmental pollution, or the general decline in the quality of urban and rural living conditions. The colloquium was not, however, directed to a discussion of specific legislative proposals. In view of the widespread congressional interest in improving and maintaining the quality of the human environment, the colloquium was directed at the general question of the need for a national environmental policy.

A special report to the Senate Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use prior to the convening of the colloquium. This report was written by Prof. L. K. Caldwell, of Indiana University, with the assistance of Mr. William Van Ness, special counsel to the committee. Mr. President, because the report is now out of print and because it summarizes the requirements for policy effectiveness and the questions of implementing an effective program of environmental administration so well, I ask unanimous consent that selected portions of the report be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 1.)

Mr. JACKSON. Mr. President, following the colloquium, a congressional white paper was prepared by the Library of Congress Legislative Reference Service. This document, which was distributed to the Congress in October, summarized the key points raised in the dialog between Members of Congress and the colloquium participants. It also suggested a number of approaches that the Congress might follow in formulating a clear and forceful strategy of environmental management.

The colloquium disclosed that environmental management is one of the most difficult issues facing Congress and the administration today. This fact has long been recognized in academic and scientific circles. For example, last year the American Society for Public Administration devoted an entire issue of its journal, *Public Administration Review*, to the interaction of well-known environmental problems and the efficacy of existing Government programs to deal with conflicts

and controversies over the use of the environment. The editor of the issue, Prof. Lynton K. Caldwell, of Indiana University, called attention to the numerous statutes that have been enacted by Congress on behalf of air and water pollution, public health, urban planning, atmospheric research, oceanography, rural conservation, and related fields. Yet he emphasized that these measures "do not cumulate to give us basic political doctrine that would guide social conduct as it impinges upon the environment."

In recent months a number of major conferences sponsored by philanthropic foundations and universities, including the Industry and Environment Conference held at Williams College in October 1968, have pinpointed very serious gaps in our private and public research effort to understand the long-term social implications of the environmental changes being wrought by rapidly expanding technologies and their industrial applications.

The bill I am introducing today would authorize the Council of Environmental Advisers to periodically review all existing programs and activities carried out by Federal agencies, as well as the private sector, to document and anticipate imminent environmental alterations, and to make appropriate recommendations to the President. The Council would thus help the President evaluate the trends of new technologies and developments as they affect our total surroundings, and to develop broad policies, including those related to anticipatory research, to prevent future man-induced environmental changes which could have serious social and economic consequences.

The aim of this legislation is not to duplicate any existing research evaluation functions such as those carried out by the Office of Science and Technology. However, it is clear that scientific knowledge must be advanced and related to the public's interest in maintaining a quality environment and in establishing better man-environment relationships. The aim of my bill is to provide a continuing and thorough consideration of our Nation's overall progress in meeting national and international problems of environmental management which are critically important to the well-being of this country.

The need for an information gathering body such as the proposed Council in the Office of the President is clear. It is obvious that we must do more to anticipate environmental problems and develop strategies for their resolution before they assume crisis proportions. It is far cheaper—in human, social, and economic terms—to anticipate these problems at an early date and to find alternatives before they require the massive expenditures we are now obligated to make to control air and water pollution and to deal with recurring problems such as the recent Santa Barbara oil spill. The proposed Council could perform this function of problem anticipation, overview, and informal coordination.

It is noteworthy, Mr. President, that the present administration has been given recommendations along these lines. Early this year, the Brookings Institution issued a report, edited by Kermit Gordon, entitled "Agenda for the Nation" in which some of the Nation's leading observers of public affairs identify the major issues the executive branch must face in the months ahead. This report contains an essay by Prof. Stephen K. Bailey, dean of the Maxwell Graduate School of Public Affairs, Syracuse University, on the subject "Managing Our Federal Government." Professor Bailey described the need for restructuring the President's Office to reflect what many public administration experts consider the prime concerns of the Nation as viewed from the vantage point of the Chief Executive. These prime concerns are identified as first, national security; second, stability and growth; third, human resource development; and, fourth, environmental management and control.

In the first three areas cited, the President's Office has steadily strengthened its policy review capabilities by creating special councils and Presidential advisers. But as Professor Bailey noted, in the increasingly troublesome area of protecting the integrity and viability of our environment, the President's Office is patently deficient:

"Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency . . . charged with the study of emerging public problems and the development of effective programs to deal with them in terms of continuing and changing presidential perspectives of the public interest."

Professor Bailey went on to note:

"The presidency is the only institution in the American polity where overarching and long-range public imperatives can be coherently analyzed and melded.

"The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive.

In the present age, as already noted, these prime concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses."

At present, the President does not have at his disposal institutional arrangements that can help him plan wisely, to sort options judiciously, and to effect coordinated responses in the field of environmental administration.

While Professor Bailey's essay does not directly endorse the councilor approach for Presidential policy review in the environmental field, as I am now proposing, I think his arguments for more satisfactory machinery than now exists to devise a national strategy of environmental management are particularly significant and should be studied by the Congress and all others who are interested in maintaining a quality environment for present and future generations. Mr. President, I ask unanimous consent that excerpts from his chapter on this subject be printed in the RECORD at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 2.)

Mr. JACKSON. Mr. President, I also ask unanimous consent that an article by Mr. Peter Khiss from the January 14, 1969, issue of the New York Times be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 3.)

Mr. JACKSON. Mr. President, the article discusses recommendations made to President Nixon by his Task Force on Resources and the Environment. It is reported that the task force recommend the naming of a Special Assistant for Environmental Affairs to the President and the establishment of a Presidential Council on the Environment. The new Council would, according to Mr. Khiss' article, represent a broadening of the membership and areas of responsibility of the present Council on Recreation and Natural Beauty. This report is for the President's confidential use, and it is not known whether the task force's recommendations will be followed. It is, however, my tentative view that the magnitude of the problems faced will require a more effective instrument than a revamped Council on Recreation and Natural Beauty.

Mr. President, the concept of man's total environment has emerged in the last few years as a new focus for public policy. Not long ago the ideal of a governmental responsibility for the health of the individual, for the state of the economy, for consumer protection and for housing was considered revolutionary. Today, we have come to take these responsibilities for granted. We must now proceed to make the concept of a governmental responsibility for the quality of our surroundings an accepted tenet of our political philosophy.

It is time that we reexamine our national goals and purposes in managing the environment. New goals and new policies which are in the long-range public interest are clearly required. Their successful development will require the active participation of the States and private enterprise as well as the Federal Government.

In the Federal Government—and I suppose this may also be true of State government—we have sometimes indulged ourselves in the illusion that we are doing a grand job of environmental management. But the facts do not support this. Many of our approaches and programs have involved merely a cosmetic approach—"clean-up, paint-up, and fix-up." The conditions we are dealing with, however, are not cured by cosmetology. Many will require major surgery.

Our responses have been too narrow, too limited, and too specialized. In the past, we have established costly programs without a clear enough perception of the objectives and the goals we seek to attain.

Mr. President, we have reached the point in our national life where this country can no longer rely on the timeworn method of simply convening ad hoc study groups and task forces to make recommendations which are easily filed away and forgotten every time there is a new environmental crisis such as the recent oil spill off Santa Barbara, Calif.

I believe that President Nixon was correct in directing Dr. DuBridge, the President's Science Adviser, to bring together a panel of scientists and engineers to review the oil pollution problem. What is of grave concern, however, is that we are still only reacting to crisis situations in the environmental field. What we should be doing is setting up institutions and procedures designed to anticipate environmental problems before they reach the crisis stage.

We need to know what the risks are, and we need to know what options and alternatives are available in the development of our resources and in the administration of our environment. It is far cheaper in human, social, and economic terms, to anticipate these problems at an early stage and to find alternatives before they require the massive expenditures we are now obligated to make to control air, water, and oil pollution.

It is my judgment that the bill I am introducing today will, if enacted, go a long way toward giving the Federal Government an environmental problem anticipatory capacity.

In conclusion Mr. President, I urge President Nixon to consider very carefully the establishment of a Council of Environmental Quality Advisers in the Executive Office of the President.

Mr. President, I ask unanimous consent that the text of the bill be printed at this point in the Record.

The VICE PRESIDENT. The bill will be received and appropriately referred; and without objection, the bill will be printed in the Record.

The bill (S. 1075) to authorize the Secretary of the Interior to conduct investigation, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, introduced by Mr. Jackson (for himself and Mr. Stevens), was received, read twice by its title, referred to the Committee on Interior and Insular Affairs, and ordered to be printed in the Record, as follows:

S. 1075

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the purpose of this Act to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources and the environmental forces affecting them and responsible for their development and future well being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research.

TITLE I

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to develop and maintain an inventory of existing and future natural resources development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(d) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals.

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environment Quality established under title II of this Act.

SEC. 102. In carrying out the provisions of this title, the Secretary is authorized to make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

SEC. 103. The Secretary shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 104. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

SEC. 105. Nothing in this Act is intended to give, or shall be construed as giving, the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purposes of identifying and eliminating any unnecessary duplication of effort.

SEC. 106. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

TITLE II

SEC. 201. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsible to the scientific, economic, social, aesthetic and cultural needs and interests of this Nation. The President shall designate the chairman and vice-chairman of the Council from such members.

SEC. 202. (a) The primary function of the Council shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Council shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice and assistance to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President.

(c) It shall be the duty and function of the Council and the Secretary of the Interior to assist and advise the President in the preparation of the biennial environment quality report required under section 203.

SEC. 203. The President shall transmit to the Congress annually beginning June 30, 1970, an environmental quality report which shall set forth (a) the status and condition of the major natural, man-made, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (b) current and foreseeable trends in quality, management,

and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 204. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 205. There are hereby authorized to be appropriated such sums as are necessary to carry out the purposes of this title.

EXHIBIT 1

A NATIONAL POLICY FOR THE ENVIRONMENT—A REPORT ON THE NEED FOR A NATIONAL POLICY FOR THE ENVIRONMENT: AN EXPLANATION OF ITS PURPOSE AND CONTENT; AN EXPLORATION OF MEANS TO MAKE IT EFFECTIVE; AND A LISTING OF QUESTIONS IMPLICIT IN ITS ESTABLISHMENT

(A special report to the Committee on Interior and Insular Affairs, U.S. Senate, by Lynton K. Caldwell, together with a statement by Senator Henry M. Jackson)

STATEMENT BY SENATOR HENRY M. JACKSON

Over the years, in small but steady and growing increments, we in America have been making very important decisions concerning the management of our environment. Unfortunately, these haven't always been very wise decisions. Throughout much of our history, the goal of managing the environment for the benefit of all citizens has often been overshadowed and obscured by the pursuit of narrower and more immediate economic goals.

It is only in the past few years that the dangers of this form of muddling through events and establishing policy by inaction and default have been very widely perceived. Today, with the benefit of hindsight, it is easy to see that in America we have too often reacted only to crisis situations. We always seem to be calculating the short-term consequences of environmental mismanagement, but seldom the long-term consequences or the alternatives open to future action.

This report proposes that the American people, the Congress, and the Administration break the shackles of incremental policymaking in the management of the environment. It discusses the need for a national environmental policy and states what some of the major elements of such a policy might be. It also raises a number of questions implicit in the establishment of such a broad-based and far-reaching policy.

The report does not purport to deal exhaustively with these subjects. Rather, it attempts to place some of the fundamental questions concerning the needs for and the elements of a national environmental policy in the arena of public debate. If the report is successful in encouraging discussion and in refining some of the issues involved, it will have performed a worthwhile purpose. In the last few years, it has become increasingly clear that, soon, some President and some Congress must face the inevitable task of deciding whether or not the objective of a quality environment for all Americans is a top-priority national goal which takes precedence over a number of other, often competing, objectives in natural resource management and the use of the environment. In my judgment, that inevitable time of decision is close upon us.

If we are to make the intelligent decisions which are not based on the emotion of conservation's cause célèbre of the moment or on the error of simply perpetuating past practices, there is a very real need to develop a national capacity for constructive criticism of present policies and the development of new institutions and alternatives in the management of the environmental resources of land, air, water, and living space. Developing this capacity will require that representatives from all elements of our national life—industry, the university, Federal, State, and local government—participate in forming this policy. It will require the creative utilization of technology to improve environmental conditions and to prevent unanticipated future instances of costly abuse. It will also require that government business, and industry pay closer attention to a far greater range of alternatives and potential consequences when they make environment-affecting decisions than they have in the past.

Finally, it needs to be recognized that the declaration of a national environmental policy will not alone necessarily better or enhance the total man-environment relationship. The present problem is not simply the lack of a policy. It also involves the need to rationalize and coordinate existing policies and to provide a means by which they may be continuously reviewed to determine whether they meet the national goal of a quality life in a quality environment for all Americans. Declaration of a national environmental policy could, however, provide a new organizing concept by which governmental functions could be weighed and evaluated in the light of better perceived and better understood national needs and goals.

This report was prepared for the use of the the Senate Interior Committee by Prof. Lynton K. Caldwell, Department of Government, Indiana University, with the assistance of Mr. William J. Van Ness, special counsel to the committee, and the Natural Resources Division, Legislative Reference Service, Library of Congress. Professor Caldwell's contribution was, in part, made possible through an arrangement with the Conservation Foundation.

"Scientists from this country and the Soviet Union—and from 50 other countries—have already begun an international biological program to enrich our understanding of man and his environment.

"I propose that we make this effort a permanent concern of our nations. I propose that the United States scientists join with the scientists of the Soviet Union and other nations to form an international council on the human environment."—*From President Lyndon B. Johnson's Commencement Address at Glassboro State College, Glassboro, N.J., June 4, 1968.*

PREAMBLE

It is a major function of the Congress to propose and consider policies "to provide for the common defense and the general welfare of the United States." Today, a challenge to the safety and welfare of the United States and of the American people has arisen. The challenge is the rapid deterioration of the environmental base, natural and manmade, which is the indispensable foundation of American security, welfare, and prosperity. Congress has recognized this challenge, and in accord with its responsibilities is preparing a response. Numerous proposals are now before the Congress to deal with what some of our best informed scientists and political leaders describe as an "environmental crisis." The purpose of this report is not to "view with alarm," but to raise the issue of whether there is a need for a national environmental policy and to discuss some of the major elements which might be considered for inclusion in such a policy. This report is intended to bring the issue of environmental policy into as sharp a focus as the complexity of its subject matter permits, and to identify some of the basic questions that would be encountered in shaping a national policy.

The threat of environmental deterioration, which the President of the United States has described as "a crisis of choice," is largely the result of the unprecedented impact of a dual explosion of population and technology upon limited resources of air, water, land, and living space. This challenge has not occurred before in American history nor in the history of civilization. Today the threat this challenge presents is widely recognized. Calls for action have come from many sectors of American society: from labor, from business, from agriculture, from science, from civic bodies, from religious, cultural and ethnic groups, from public agencies and from the elected representatives of the people. Symbolizing the national concern, the Department of the Interior entitled its 1968 Conservation Yearbook "Man—An Endangered Species?"; and the Chamber of Commerce of the United States has issued a call for action in a pamphlet bearing the headline "The Need: To Mamage Our Environment." These publications, together with many others listed in appendix A, document the evidence and provide an outstanding listing of the dangers and costs of environmental deterioration. When these dangers and costs are understood, the need for a continuing effort to refine and establish a countervailing policy is apparent.

Therefore, the issue before the American people and their elected representatives is the kind of policy that will meet the need. To be effective, a national policy for the environment must be compatible and consistent with many other needs to which the Nation must respond. But it must also define the intent of the American people toward the management of their environment in terms that the Congress, the President, the administrative agencies and the electorate can consider and act upon. A national policy for the environment—like other major

policy declarations—must be concerned with principle rather than with detail; but it must be principle which can be applied in action. The goals of effective environmental policy cannot be counsels of perfection; what the Nation requires are guidelines to assist the Government, private enterprise and the individual citizen to plan together and to work together toward meeting the challenge of a better environment. At the risk of some oversimplification, the task may be summarized in these terms:

(1) To arrest the deterioration of the environment.

(2) To restore and revitalize damaged areas of our Nation so that they may once again be productive of economic wealth and spiritual satisfaction.

(3) To find alternatives and procedures which will minimize and prevent future hazards in the use of environment-shaping technologies, old and new.

(4) To provide direction and, if necessary, new institutions and new technologies designed to optimize man-environment relationships and to minimize future costs in the management of the environment.

The challenge of environmental management is, in essence, a challenge of modern man to himself. The principal threats to the environment are those that man himself has induced. A national policy for the environment is thus above all else a national policy for the welfare and survival of man. It is one more step in the journey of the American people from political independence toward knowledgeable self-determination in its most fundamental and democratic sense.

A NATIONAL POLICY FOR THE ENVIRONMENT

Introduction

This report is based upon the assumption that the threat of environmental mismanagement and deterioration to the security and welfare of the United States has been established. (See app. A.) There are differences of opinion as to the security and relative urgency of various hazards to the environment. Some scientists believe that man's environmental relationships have reached a point of crisis; others do not see the condition of the environment generally as having yet reached a critical stage. But there is, nevertheless, general consensus throughout most walks of life that a serious state of affairs exists and that, at the least, it is approaching a crisis of national and international proportions. The focus of this report is therefore on national policy to cope with environmental crisis, present or impending, rather than with documenting the facts relating to environmental deterioration.

Part I. Requirements for policy effectiveness

Effective policy is not merely a statement of things hoped for. It is a coherent, reasoned statement of goals and principles supported by evidence and formulated in language that enables those responsible for implementation to fulfill its intent. This section of the report describes some of the interrelating conditions that appear necessary to an effective national policy for the environment. The discussion will be developed under the following five headings:

- (1) Understanding Imminent Need.
- (2) Recognizing Costs.
- (3) Marshaling Relevant Knowledge.
- (4) Facilitating Policy Choice.
- (5) National Policy and International Cooperation.

1. Understanding Imminent Need

An effective and enlightened environmental policy is a response to the needs of man in relation to his environment. The response may involve the control of man's behavior on behalf of the larger interests of mankind where those interests are clearly perceived and widely held. Man's relationships with his environment are, of course, multitudinous and complex. Control by governments, by international organizations, or by other institutions, cannot feasibly be extended to every aspect of the environment nor to more than a fraction of the actual points of impact of individual man upon his environment. Policy effectiveness consequently depends very largely upon the internationalization, in the human individual, of those understandings, values, and attitudes that will guide his conduct in relation to his environment along generally beneficial lines. A major requisite of effective environmental policy is therefore intelligent and informed individual self-control.

There is substantial evidence to indicate that large numbers of Americans perceive the need for halting the spread of environmental decay. It is also evident, however, that few recognize the connection between the conditions which they deplore and the absence of any explicit and coherent national policy on behalf of environmental quality.

Man is confronted by a circumstance that is totally new in human history. He has rapidly completed the occupancy of the easily inhabitable areas of the earth while his numbers have increased at an exponential and accelerating rate. Simultaneously, unprecedented economic power and advances in science and technology have permitted man to make enormously increased demands upon his environment. In no nation are these coincidental developments more dramatically evident than in the United States. And yet many Americans find it difficult to understand why sound environmental management should now suddenly become "everybody's business." Long-accepted ways of thinking and acting in relation to one's surroundings are now being called into question. Understanding of what has happened can be helped by a simple exercise in arithmetic.

At the time of the American Revolution the total human population of the present-day continental United States could hardly have exceeded 3 million individuals. The demands of the American Indian and European colonists on the Atlantic seaboard were very light when contrasted with current exactions. By the close of the 20th century, if the population of this same area approximates 300 million, the daily stress man places on the environment will, on the basis of mere numbers, have increased 100 times over. Technology has alleviated some forms of stress (as on forests for fuel or on wildlife for food), but it has greatly increased environmental stress in general. The net result has been enormously increased demands upon the environment in addition to the increase in population. Calculation of an average per man-year stress upon the environment, estimated from A.D. 1700 to 2000, and adjusted for technological factors at particular historical periods, would be a powerful persuader of the need for a sensitive and forward-looking national environmental policy. The exponential increase in the pressure of man and his technology upon the environment, particularly since World War II, is the major cause of the need for a national environmental quality effort.

The rate at which the Nation has changed since 1890 when the frontier officially ceased to exist has been unexceeded by any other social transformation in history. Scarcely one long generation removed from the last days of the frontier, America has become an urbanized and automated society with publicly institutionalized values in social security, labor relations, civil rights, public education, and public health that would have been utopian less than a century ago. In the absence of a system for adequately assessing the consequences of technological change, who could have predicted the many ways in which applied science would transform the conditions of American life? Powerful new tools applying the discoveries in chemistry, physics, biology, and the behavioral sciences were put to work for improving the health, wealth, comfort, convenience, and security of Americans. Utilizing the vast natural resources of the American environment, the world's highest standard of living was achieved in an amazingly short period of time. Unfortunately, our productive technology has been accompanied by side effects which we did not foresee. Experience has shown us that there are dangers as well as benefits in our science-based technology. It is now becoming apparent that we cannot continue to enjoy the benefits of our productive economy unless we bring its harmful side effects under control. To obtain this control and to protect our investment in all that we have accomplished, a national policy for the environment is needed.

Although Americans have enjoyed prodigious success in the management of their economy they have been much less successful in the management of natural resources. As a people we have been overly optimistic, careless, and at times callous in our exactions from the natural environment. The history of soil exhaustion and erosion, of cut-over forest lands, of slaughtered wildlife document a few of our early failures to maintain the restorative capacities of our natural resources. Fortunately many of these early failures have been corrected or are now being remedied. But our exploding population and technology have created more subtle dangers, less easily detected and more difficult to overcome.

These more recent dangers have been documented in testimony before the Congress and in the reports of scientific committees (app. A). They confront us with the possibility that the continuation of present trends affecting, for example, (a) the chemistry of the air, (b) the contamination of food and water,

(c) the use of open land and living space, and (d) the psychophysical stress of crowding, noise and interpersonal tension on urban populations, may infinitely degrade the existence of civilized man before the end of this century. These are not the exaggerated alarms or unsubstantiated predictions of extremists: they are sober warnings of competent scientists supported by substantial demonstrable evidence. The practical course is, therefore, to forestall these threats before they have outgrown our technical, economic, legal, and political means to overcome them. Fortunately, we still have a choice in this matter. We still have a relatively wide range of alternatives available in managing the environment.

It may be contended that the problems of the environment must wait until more urgent political issues are resolved. Problems of national security, poverty, health, education, urban decay, and underdeveloped nations have just and appropriate claims for priority in national attention and public expenditures. Yet many aspects of these problems involve environmental policy. Three of the most urgent—the slums and ghettos of the great cities: increasing disability and death from diseases induced by environmental factors (for example, cancer, emphysema, mental disorders); and the decline and decay of rural areas (for example, in Appalachia) furnish persuasive reasons for a national environmental policy. Before billions of dollars are spent in attempts to alleviate these social ills, it would be wise to be sure that the environmental factors causing or accompanying these conditions are properly identified and remedied. We may otherwise worsen the state of our economy and environment without solving the underlying social problems.

In summary, within the present generation the pressures of man and technology have exploded into the environment with unprecedented speed and unforeseen destructiveness. Preoccupied with the benefits of an expanding economy the American people have not readily adopted policies to cope with the attendant liabilities. Popular understanding of the need to forestall the liabilities in order to preserve the benefits is now becoming widespread. And provides the political rationale for the development of a national policy for the environment, and for a level of funding adequate to implement it.

2. Recognizing Costs

The nation long ago would probably have adopted a coherent policy for the management of its environment, had its people recognized that the costs of over-stressing or misusing the environment were ultimately unavoidable. This recognition was arrived at belatedly for several reasons: *First*, environmental deterioration in the past tended to be gradual and accumulative, so that it was not apparent that any cost or penalty was being exacted; *second*, it seemed possible to defer or to evade payment either in money or in obvious loss of environmental assets; *third*, the right to pollute or degrade the environment (unless specific illegal damage could be proved) was widely accepted. Exaggerated doctrines of private ownership and an uncritical popular tolerance of the side effects of economic production encouraged the belief that costs projected onto the environment were costs that no one had to pay.

This optimistic philosophy proved false as many regions of the Nation began to run out of unpolluted air and water, as the devastation of strip mining impoverished mining communities, as the refuse of the machine age piled up in man-made mountains of junk, as the demand for electricity and telecommunications arose to festoon the nation with skeins of cables strung from forests of poles, and as the tools of technology increasingly produced results incompatible with human well-being. Under the traditional "ground rules" of production, neither enterprise nor citizen was called upon to find alternatives or to pay for measures that would have prevented or lessened ensuing loss of environmental quality. Payment continued to be exacted in the loss of amenities the public once enjoyed, and in the costs required to restore resources to usefulness and to support the public administration that environmental deterioration entailed. When the public began to demand legislation to control pollution and to prevent environmental decay, the reaction of those involved in environmental degrading activities was often one of counter-indignation. Businessmen, municipalities, corporations and property owners were confronted with costs in the form of taxes or the abatement of nuisances that they had never before been called upon to pay. They were now about to be penalized for behavior which America had long accepted as normal.

What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment. The policy question is not whether payment shall be made; it is when payment shall be made, in what form, and how the costs are to be distributed. Hard necessity has made evident the need for payment

to obtain air and water of quality adequate to meet at least minimum standards of health and comfort. Scientific knowledge and the rising levels of amenity standards have added to public expectation that protection against environmental damage will be built into the products and production costs of manufacturers.

Lack of a national policy for the environment has now become as expensive to the business community as to the Nation at large. In most enterprises a social cost can be carried without undue burden if all competitors carry it alike. For example, industrial waste disposal costs can, like other costs of production, be reflected in prices to consumers. But this becomes feasible only when public law and administration put all comparable forms of waste-producing enterprises under the same requirements. Moreover it has always been an advantage to enterprise to have as clear a view as possible of future costs and requirements. When public expectations and "ground rules" change, however, as they have been changing recently on environmental quality issues, the uncertainty of resulting effects upon business costs, and the necessity for adjustment to unexpected expenses and regulations, is disconcerting and hardly helpful.

A national policy for the environment could provide the conceptual basis and legal sanction for applying to environmental management the methods of systems analysis and cost accounting that have demonstrated their value in industry and in some areas of government. It has been poor business, indeed, to be faced with the billions of dollars in expenses for salvaging our lakes and waterways when timely expenditures of millions or timely establishment of appropriate policies would have largely preserved the amenities that we have lost and would have made unnecessary the cost of attempted restoration. A national system of environmental cost accounting expressed not only in economic terms but also reflecting life-sustaining and amenity values in the form of environmental quality indicators could provide the Nation with a much clearer picture than it now has of its environmental condition. It would help all sectors of American society to cooperate in avoiding the overdrafts on the environment and the threat of ecological insolvency that are impairing the national economy today.

It is not only industrial managers and public officials who need to recognize the unavoidable costs of using the environment. It is, above all, the individual citizen because he must ultimately pay in money or in amenities for the way in which the environment is used. If, for example, he likes to eat lobster, shrimp or shellfish, the citizen must reconcile himself to either paying dearly for these products or indeed finding them unobtainable at any price, unless we find ways to preserve America's coastline and coastal waters. The individual citizen may also have to pay in the cost of illness and in general physical and psychological discomfort. And these costs, of course, are not incurred voluntarily.

In the interest of his welfare and of his effectiveness as a citizen the individual American needs to understand that environmental quality can no longer be had "for free." Recognition of the inevitability of costs for using the environment and of the forms which these costs may take is essential to knowledgeable and responsible citizenship on environmental policy issues.

In summary, the American people have reached a point in history where they can no longer pass on to nature the costs of using the environment. The deferral of charges by letting them accumulate in slow attrition of the environment, or by debiting them as loss of amenities will soon be no longer possible. It is no longer feasible for the American people to permit it. The environmental impact of our powerful, new, and imperfectly understood technology has often been unbelievably swift and pervasive. Specific effects may prove to be irreversible. To enjoy the benefits of technological advance, the price of preventing accidents and errors must be paid on time. From now on "pay-as-you-go" will increasingly be required for insuring against the risks of manipulating nature. This means merely that provision must be made for the protection, restoration, replacement, or rehabilitation of elements in the environment before, or at the time, these resources are used. Later may be too late.

3. Marshaling Relevant Knowledge

For many years scientists have been warning against the ultimate consequences of quiet, creeping, environmental decline. Now the decline is no longer quiet and its speed is accelerating. The degradation is destroying the works of man as well as of nature. We are confronted simultaneously with environmental crisis in our cities and across our open lands and waters. The crisis of the cities and the crisis of the natural and rural environments have many

roots in common, although they may erroneously be viewed as extraneous to one another, or even as competitive for public attention and taxation. In fact, both crises stem from an ignorance of and a disregard for man's relationship to his environment.

An effective environmental policy in the past might have prevented and would certainly have focused attention upon the wretched condition of urban and rural slums. It would surely have stimulated a search for knowledge that could have helped to correct and prevent degraded conditions of living. It is now evident that the fabric of American society can no longer contain the growing social pressure against slum environments. Today, remedial measures are being forced by social violence and by the social and economic costs of environmental decay; but it is not certain that the remedies take full account of the nature of the ailment. The pressure upon the urban environment is acute and overt; it is dramatized, it has obvious political implications, and it hurts. Conversely, the degradation of natural and rural environments is more subtle. Stress may reach the point of irreparable damage before there is full awareness that a danger exists. What is needed therefore is a systematic and verifiable method for periodically assessing the state of the environment and the degree and effect of man's stress upon it, as well as the effect of the environment and environmental change on man.

One would expect to be able to look to the universities and to the great schools and institutes of agriculture, engineering, and public health as constituting an environmental intelligence system. Unfortunately, however, no such system exists. Man-environment relationships per se have seldom been studied comprehensively. Various disciplines have concerned themselves with particular aspects of environmental relationships. Geographers, physiologists, epidemiologists, evolutionists, ecologists, social and behavioral scientists, historians, and many others have in various ways contributed to our knowledge of the reciprocal influences of man and environment. But the knowledge that exists has not been marshaled in ways that are readily applicable to the formulation of a national policy for the environment. At present, there are many gaps in our knowledge of the environment to which no discipline has directed adequate attention.

It should not be surprising that there is a lack of organized knowledge relating to environmental relationships. Society has never asked for this knowledge, and has neither significantly encouraged nor paid for its production. By way of contract, public opinion has supported the costs of high-energy physics as reasonable, even though direct and immediate applications to public problems are relatively few. But public opinion has been guided in part by the judgment of the scientific community and of the leaders of higher education. Only recently have the scientific community and the universities begun to interest themselves institutionally in man-environment relationships, perceived in the totality in which they occur in real life.

Environmental studies in the universities are as yet largely focused on separate phases of man-environment relationships. This, in itself, is not undesirable; it is in fact necessary to obtain the degree of specialization and intensive study that many environmental problems require. The inadequacy lies in the lack of means to bring together existing specialized knowledge that would be relevant to the establishment of sound policies for the environment. There is also need for greatly increased attention to the study of natural systems, to the behavior of organisms in relation to environmental change, and to the complex and relatively new science of ecology. There is need for synthesis as well as for analysis in the study of man-environment.

A reciprocal relationship exists between the interests of public life and the activities of American universities. Public concern with a social problem when expressed in terms of public recognition or financial support, stimulates related research and teaching in the colleges and universities. Research findings and teaching influence the actions of government and the behavior of society. This relationship has been exceptionally fruitful in such fields as agriculture, medicine, and engineering. It has not, as yet, developed strength in the field of environmental policy and management. Nevertheless a beginning is being made in some colleges and universities, and in a number of independent research organizations and foundations, to provide a more adequate informational base for environmental policy.

Recognition of the need for a more adequate informational base for environmental policy has not been confined to academic institutions or to government. Speaking to the 1967 plenary session of the American Institute of Biological Sciences, Douglas L. Brooks, president of the Traveler's Research Center, declared

that “* * * We need to recognize environmental quality control as a vital social objective and take steps to establish the field of environmental management as a new cross-disciplinary applied science professional activity of extraordinary challenge and importance.”

To date, action by Government to assist the marshaling of relevant knowledge has been uncoordinated and inconstant. With the exception of defense and space-related technical investigations, the amount of money made available for environmental research has been relatively meager and has been allocated largely along conventional disciplinary lines. Specialized aspects of research on man-environment relationships have been well funded by the Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration. But much of this work is highly technical and is appropriately directed toward problems encountered in the missions of these agencies. More broadly based are the interests of the National Science Foundation, but the Foundation's resources for funding academic research relating to environmental policy are small. For a brief period the most promising source of support for the kind of knowledge needed for environmental policy effectiveness was the U.S. Public Health Service. In the mid-1960's, the Service began to assist the establishment of broadly based environmental health science centers in selected universities. But a shift of emphasis in the Public Health Service brought this effort to an untimely standstill. The National Institutes of Health Fund a significant body of health-related environmental research, but little of it appears to be policy-related.

The Science Information Exchange of the Smithsonian Institution, surveying the general field of Government-funded research for the Senate Interior and Insular Affairs Committee, found (not unexpectedly) that there were heavy concentrations of research where Government funding was heaviest—notably in physical science and the biomedical aspects of the environment. Government-funded research of broadly cross-disciplinary or policy-oriented character appeared to be almost negligible in volume and in funding. It is probable that policy problems are investigated in the course of substantive research; but it is evident that we have not yet made a conscious decision to organize and fund the effort which students of environmental policy and management see as the necessary first step to an adequate environmental information system.

To provide facilities and financial support for new research on natural systems, environmental relationships and ecology on an independent, but publicly financed basis, a National Institute of Ecology has been proposed by a group of scientists associated with the Ecological Society of America and assisted by the National Science Foundation. The functions proposed for this institute are worth restating in brief, as indicative of the contribution that ecologists would like to make toward strengthening the Nation's capacity to cope with its environmental problems. Defining ecology to be “* * * the scientific study of life-in-environment,” the proponents of a National Institute of Ecology state that it is needed (1) to conduct large-scale multi-disciplinary field research beyond the capacities of individual researchers or research institutions, (2) to provide a central ecological data bank on which ecologists and public agencies can draw, (3) to coordinate and strengthen activities of ecologists in relation to ecological issues in public affairs, and to promote the infusion of ecology into general education at all levels, and (4) to perform advisory services for government and industry on action programs affecting the environment. The principal purpose of the proposed institute is not, however, to study public policy or education, but to do more and better ecology.

These efforts and proposals, and many others unreported here, are constructive contributions to the task of marshaling the knowledge needed for an effective national policy for the environment. They do not, however, add up to a national information system, nor do they necessarily present information and findings relative to the environment in forms suitable for review and decision by the Nation's policymakers. The ecological research and surveys bill introduced by Senator Gaylord Nelson in the 89th Congress would have established a national research and information system under the direction of the Secretary of the Interior. Similar proposals have been incorporated in a number of bills introduced in the 90th Congress, including S. 2805 by Senators Jackson and Kuchel. (See app. B.) An important difference between the proposals before the 90th Congress and the efforts and proposals described in the preceding paragraphs is that in pending legislation the knowledge assembled through survey and research would be systematically related to official reporting, appraisal, and review. The need for more knowledge has been established beyond doubt. But of

equal and perhaps greater importance at this time is the establishment of a system to insure that existing knowledge and new findings will be organized in a manner suitable for review and decision as matters of public policy.

In summary, to make policy effective through action, a comprehensive system is required for the assembly and reporting of relevant knowledge; and for placing before the President, the Congress, and the people, for public decision, the alternative courses of action that this knowledge suggests. With all its great resources for research, data processing, and information transmittal, the United States has yet to provide the financial support and operational structure that would permit these resources to implement a public policy for the environment.

4. Facilitating Policy Choice

The problem of organizing information for purposes of policy-oriented review leads directly to the need for a strategy of policy choice. Environmental policymaking presents certain organizational difficulties. It must draw heavily upon scientific information and yet it embraces important considerations and issues that are extraneous to science policy. Insofar as environmental policy is dependent upon scientific information, it is handicapped by the insufficiency of the research effort and the inadequacies of information handling described in the preceding paragraphs. In a review of U.S. science policy of the Organization for Economic Cooperation and Development, the European examiners cited environmental problems as one of the areas of inquiry that American science was not well organized to attack. The criticism was directed not at the accomplishments of American science in support of major technical undertakings; it was instead concerned with the absence of a system and a strategy adequate to deal with the problems of the environment, and of social relationships and behavior, on a scale which their comprehensive and complex subject matters require.

Insofar as science is an element in environmental policymaking, the Office of Science and Technology affords a mechanism for enlisting the resources of the scientific community, for establishing study groups and advisory panels on specific issues, and for presenting their recommendations to the President. In the coordination of scientific aspects of environmental policy, the Federal Council of Science and Technology, in association with the Office of Science and Technology, is the more general of several coordinative or advisory bodies in the executive branch. (See app. C.) The establishment of special councils for marine resources and engineering development, for water resources, for recreation and natural beauty, among other purposes, complicates to some extent the function of policy advice. None of these bodies are constituted to look at man-environment relations as a whole; none provide an overview; none appear fully to answer the need for a system to enable the President, the Congress, and the electorate to consider alternative solutions to environmental problems.

Possible answers to the need for a system to assist national policy choice may be found in legislative proposals to create councils on environmental quality or councils of ecological advisers. These councils are conceived as bridges between the functions of environmental surveillance, research, and analysis, on the one hand, and the policymaking functions of the President and the Congress on the other. The particular and indispensable contribution of the Council to environmental policy would be twofold. The first would be, using S. 2805 for purposes of illustration, " * * * to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation." Most proposals call for a report on the state of the environment from the Council to the President and from the President to the Congress. S. 2805, for example, states that the Council shall provide advice and assistance to the President in the formulation of national policies, and that it shall also make information available to the public. The bill further provides that " * * * The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President."

From this enumeration of the Council's functions several inferences may be drawn. *First*, the proposed environmental advisory councils are not science advisory bodies. They are instructed in pending legislative proposals to take specified factors, including the scientific, into account in the course of their analysis and recommendations on environmental policy issues. *Second*, the councils are not primarily research or investigating bodies even though they have important investigatory functions. They are essentially policy-facilitating bodies. *Third*,

their functions are those of analysis, review, and reporting. Their nearest functional counterpart is probably the Council of Economic Advisers. *Fourth* and finally, councils on the environment, such as proposed by some of the measures listed in appendix B, must be located at the highest political levels if their advisory and coordinative roles are to be played effectively. For this reason the proposals have generally established the Council in the Executive Office of the President. However, the Technology Assessment Board proposed by Representative Emilio Q. Daddario, which would perform many functions similar to those of the environmental councils, would be an independent body responsible primarily to the Congress.

This brings the discussion to the role of the Congress in facilitating policy choice. Some have found the formal committee structure of the Congress to be poorly suited to the consideration of environmental policy questions. Senator Edmund Muskie has proposed a Select Committee of the Senate on Technology and the Human Environment to facilitate consideration of related environmental issues that would normally be divided among a number of Senate committees. Others have proposed that a Joint Committee on the Environment, representative of the principal committees of the House and the Senate concerned with environmental policy issues, should be established to review a proposed annual or biennial report of the President on the state of the environment. Many Congressmen, however, feel that the policy of establishing new committees to deal with each new problem area should be resisted and that the present committees should assume their legislative and oversight responsibilities in this area. Meanwhile the informal and practical operations of legislative business permits the present standing committees to function with remarkable speed and dexterity where the will to legislate exists.

In summary, policy effectiveness on environmental issues will require some form of high-level agency in the executive branch for reviewing and reporting on the state of the environment. No existing body seems appropriate for this function. To meet this need, and under various names, a council for the environment has been suggested and has been incorporated in numerous legislative proposals. Provision for a policy assisting body in the executive branch suggests to some the desirability of a comparable committee in the Congress.

5. National Policy and International Cooperation

In his address to the graduating class at Glassboro State College on June 4, 1968, President Lyndon B. Johnson called for the formation of a permanent "international council on the human environment." The ecological research and surveys bill first offered in 1965 by Senator Gaylord Nelson authorized participation by the United States with "other governments and international bodies in environmental research." Similarly, S. 2805 and other pending measures authorize " * * * environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations * * *."

These and other expressions of the willingness and intent of the United States to cooperate with other nations and with international organizations on matters of environmental research and policy reinforce the argument for a national environmental policy. Although the United States could cooperate internationally on many specific issues without a national policy, it could do so more effectively and comprehensively if its own general position on environmental policy were formally and publicly enunciated.

The United States, as the greatest user of natural resources and manipulator of nature in all history, has a large and obvious stake in the protection and wise management of man-environment relationships everywhere. Its international interests in the oceanic, polar, and outer space environments are clear. Effective international environmental control would, under most foreseeable contingencies, be in the interest of the United States, and could hardly be prejudicial to the legitimate interests of any nation. American interests and American leadership would, however, be greatly strengthened if the Nation's commitment to a sound environmental policy at home were clear.

Part II. Questions of implementation

What significance would adoption of a national policy for the environment hold for the future of government in the United States? At the least, it would signify a determination by the American people to assume responsibility for the future management of their environment. It would not imply an all-inclusive Federal or

even governmental environmental administration. The task to, too widespread, multitudinous, and diverse to be wholly performed by any single agency or instrumentality. There are important roles to be played at every level of government and in many sectors of the nongovernmental economy. Nevertheless a new policy, and particularly a major one, is certain to arouse some apprehensions.

In the Federal agencies, among the committees of the Congress, in State governments, and among businesses whose activities impinge directly upon the environment and natural resources, there would be understandable concern as to what changes for them might be implicit in a national policy for the environment. The objection is certain to be raised that Government is already too large and that there are already too many agencies trying to manage the environment. "Please—not one more," will be an oft-repeated plea. These fears, however, are largely those that always accompany a new public effort regardless of its purpose, direction, or ultimate benefit. Very few people oppose, in principle, public action on behalf of quality in the environment. It is implementation that raises questions and arouses apprehension.

It would be unconvincing to assert that no interest, enterprise, or activity will be adversely affected by a national environmental quality effort. There is no area of public policy that does not impose obligations upon, nor limit the latitude for action of important sectors of society. But while activities harmful to man's needs and enjoyments in the environment must necessarily be curbed, it is also true that all Americans, without exception, would benefit from an effective national environmental policy. In brief, although all would benefit, a relative few might be required to make adjustments in business procedures or in technological applications.

For the foregoing reasons, a report on the need for a national policy for the environment would be incomplete if it did not raise, at least for the purposes of discussion, some major questions that the establishment as such a policy would imply. These are mainly questions of how a decision to establish a national policy would be implemented in practice. They are questions to be answered by the Congress and by the President. But in their answers, the policy-determining branches of Government will need to consider a number of issues subsidiary to those major questions.

To better illustrate the issues involved in these questions, reference will be made to S. 2805. No claim of special priority is implied by these references. Many of the bills now pending on this issue have similar provisions. Any one bill might serve as well as any other.

1. What Are the Dimensions of an Environmental Policy and How Are They Distinguishable From Other Areas of National Concern?

This is the fundamental question. It would be unreasonable to expect that its metes and bounds could be defined more clearly than those of the more familiar policy areas of national defense, foreign relations, civil rights, public health, or employment security. The field of definition can be narrowed, however, by identifying those concepts with which it might be confused but from which it should be clearly distinguished.

Environmental policy, broadly construed, is concerned with the maintenance and management of those life-support systems—natural and manmade—upon which the health, happiness, economic welfare, and physical survival of human beings depend. (See app. D.) The quality of the environment, in the full and complex meaning of this term, is therefore the subject matter of environmental policy. The term embraces aspects of other areas of related policy or civic action, and it is important that environmental policy and environmental quality, in the broad sense, be distinguished from these related but sometimes dissimilar policies or movements.

Environmental policy should not be confused with efforts to preserve natural or historical aspects of the environment in a perpetually unaltered state. Environmental quality does not mean indiscriminate preservationism, but it does imply a careful examination of alternative means of meeting human needs before sacrificing natural species or environments to other competing demands.

Environmental quality is not identical with any of the several schools of natural resources conservation. A national environmental policy would however, necessarily be concerned with natural resource issues. But the total environmental needs of man—ethical, esthetic, physical, and intellectual, as well as economic—must also be taken into account.

Environmental policy is not merely the application of science and technology to problems of the environment. It includes a broader range of considerations. For this reason S. 2805, in proposing a Council on Environmental Quality, does

not stipulate that its five members be scientists, although it obviously would not preclude scientists among them.

One of the few differences in emphasis among the environmental policy bills now before the Congress has to do with the role of ecologists and of the science of ecology in the shaping of national policy. The need for a greatly expanded program of national assistance for ecological research and education cannot be doubted by anyone familiar with present trends in the environment. The science of ecology can provide many of the principal ingredients for the foundation of a national policy for the environment. But national policy for the environment involves more than applied ecology, it embraces more than any one science and more than science in the general sense.

The dimensions of environmental policy are broader than any but the most comprehensive of policy areas. The scope and complexities of environmental policy greatly exceed the range and character of issues considered, for example, by the Council of Economic Advisers. One may therefore conjecture, without derogation to the unquestionable importance of the economic advisory function, that a council on the environment would, in time, perhaps equal and even exceed in influence and importance any of the specialized councilar bodies now in existence. For this reason its membership should be broadly representative of the breadth and depth of national interests in man-environment relationships. The ultimate scope of environmental policy, and the relationship of a high-level implementing council to existing councils, commissions, and advisory agencies, are not questions that can be, or need to be, decided now, nor even at the time that a national policy may be adopted. The important consideration is to develop a policy and to provide a means that will permit its objectives to be considered and acted upon by the Congress, the President, and the executive agencies. If we wait until we are certain of the dimensions of environmental policy and of how it will relate to other responsibilities and functions of Government, our assurance will be of no practical value. It will have come too late to be of much help.

2. Upon What Considerations and Values Should a National Environmental Policy Be Based?

If it is ethical for man to value his chances for survival, to hope for a decent life for his descendants, to respect the value that other men place upon their lives, and to want to obtain the best that life has to offer without prejudicing equal opportunities for others, then the cornerstone of environmental policy is ethical. That cornerstone is the maintenance of an environment in which human life is not only possible, but may be lived with the fullest possible measures of personal freedom, health, and esthetic satisfaction that can be found. No government is able to guarantee that these values can be realized, but government is able to assist greatly in the maintenance of an environment where such values are at least realizable.

Ethics, like justice, is not easily quantifiable, yet few would argue that society should not seek to establish justice because justice cannot be adequately defined or quantified. Environmental policy is a point at which scientific, humanistic, political, and economic considerations must be weighed, evaluated, and hopefully reconciled. Hard choices are inherent in many policy issues. The sacrifice of a plant or animal species, for example, or of a unique ecosystem ought not to be permitted for reasons of short-run economy, convenience, or expediency. The philosophy of reverence for life would be an appropriate guiding ethic for a policy that must at times lead to a decision as to which of two forms of life must give way to a larger purpose.

The natural environment has been basically "friendly" toward man, Man's survival is dependent on the maintenance of this environment, but not upon the unaltered operation of all of its myriad components. Pathogenic micro-organisms, for example, are not revered by man. Protection against them is a major task of environmental health and medicine. But even here, respect for the incredible variety, resilience, and complexity of nature is a value that environmental policy would be wise to conserve. Frontal attacks upon man's environmental enemies or competitors, identified as pathogens or as "pests," have mis-carried too often to encourage the thought that direct action on threats in the environment are always wise, economical, or effective.

The range of values to be served by environmental policy is broad and an indication of how its scope might be defined may be obtained from the provisions of S. 2805 which specify the considerations to which the Council on Environmental Quality should respond: "Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and inter-

pret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social esthetic and cultural needs and interests of this Nation."

The assessment and interpretation of these needs and interests is obviously a function that the members of the Council would have to perform to the best of their ability. No more than in the election of legislators or in the appointment of judges, would it be possible to stipulate how these or other values should be understood and weighted. The reputations and characters of the individuals appointed to the Council would offer the best indication of how the specifications of the law might be construed. But the findings and conclusions of the Council need not be wholly subjective or based upon speculative data. The methods of systems analysis, cybernetics, telemetry, photogrammetry, electronic and satellite surveillance, and computer technology are now being applied to a wide range of environmental relationships. New statistical and computerized simulation techniques are rapidly bringing ecology from what has been described as "one of the most unsophisticated of the sciences," to what may become one of the most complex, intellectually demanding, and conceptually powerful of the sciences.

In brief, the values and considerations upon which a national environmental policy should be based should be no less extensive than the values and considerations that men seek to realize in the environment. In the interpretation of these values and considerations science can play a role of great importance. But neither science, nor any other field of knowledge or experience, can provide all of the criteria upon which environmental policies are based. The full range of knowledge and the contributions of all of the scientific and humanistic disciplines afford the informational background against which value judgments on environmental policy may most wisely be made.

3. How Should the Information Needed for a National Environmental Policy Be Obtained and Utilized?

Of all major questions on the implementation of environmental policy, this one is probably the least difficult. It is in part a technical question; yet to describe it as technical is not to suggest that it can be easily answered. There is no present system for bringing together, analyzing, collating, digesting, interpreting, and disseminating existing information on the environment. There is accordingly no reliable way of ascertaining what aspects of man-environment relationships are unresearched or hitherto unidentified. The question is less difficult than others primarily because it is clearly possible to design an information system, to fund its implementation, and to put it into effect. The particular form in which the data should finally appear, and the method of its subsequent disposition are more problematic.

Title I of S. 2805, and other measures proposed on behalf of a national environmental policy, make provision for the functions of information gathering, storage and retrieval, dissemination, and for enlarging the available information through assistance to research and training. The detailed provisions of S. 2805 on an environmental information system are numerous and need not be repeated here. The significant feature of these provisions is that they create an information system designed and intended to serve the policymaking processes of government.

Most of the environmental quality bills place this information function under the direction of the Secretary of the Interior. But they relate its data-gathering functions to those of other Federal agencies and they provide for the transmittal of its findings to a high-level reviewing body and to the President and the Congress. In the provision for organizing environmental information into a form that is usable for policy formation, this proposal represents a step toward greater rationality in government and toward the more effective use of modern information systems and technology to serve public purposes.

4. How Should a National Environmental Policy Be Implemented and Periodically Reviewed for Refinement or Revision?

Some innovation and restructuring of policy-forming institutions will be required to achieve the purposes of a national environmental policy. Our present governmental organization has not been designed to deal with environmental policy in any basic or coherent manner. (See app. C.) The extent to which governmental reorganization may be necessary cannot be determined absolutely in advance of experience. But it does seem probable that some new facility at the highest levels of policy formulation will be needed to provide a point at which environmental policy issues cutting across the jurisdictional lines of existing agencies can be identified and analyzed, and at which the complex prob-

lems involved in man's relationships with his environment can be reduced to questions and issues capable of being studied, debated, and acted upon by the President, the Congress, and the American people. As we have seen, some of the bills on environmental policy now pending in the Senate and the House of Representatives (see app. B) provide a point of focus for this new area of policy through a high-level board or council. Many of these bills provide for periodic reports on the state of the environment to the policy-determining institutions of the Nation—the President and the Congress—and, as these reports are matters of public record, to the American people who must be the final judges of the level of environmental quality they are willing to support.

As noted in the preceding paragraphs, improved facilities for the finding, analysis and presentation of pertinent factual data are needed. A vast amount of data is now collected by Federal agencies and by private research organizations; but this data is uneven in its coverage of the various aspects of environmental policy. For example, there is a superabundance of technical information on some aspects of environmental pollution, but comparatively little research on the social and political aspects of environmental policy. Much of the data now available is in a form unsuitable for policy purposes. The sheer mass of data, much of it highly technical on certain major environmental problems, is a serious impediment to its use. For this reason the legislative proposals on national environmental policy provide a system for reinforcing, supplementing, and correlating the flow of information on the state of the environment.

These two major needs, (a) a high-level reviewing and reporting agency and (b) an information gathering and organizing system, are the essential structural innovations proposed in bills now before the Congress for implementing a national environmental policy. Would these additions to the present structure of government be sufficient to implement a national environmental quality program and how in particular would the proposed high-level Council be related to other agencies in the federal structure of government?

New policies and programs imply structures appropriate to their functions and may call for new relationships among existing agencies. To construct a comprehensive structure for environmental administration will require time and meanwhile the need for leadership in informing the people and in formulating policy recommendations and alternatives grows more urgent. It is for this reason that some of the measures which have been introduced propose that a Council for Environmental Quality be established in the Executive Office of the President. In effect, the Council would be acting as agent for the President. It would need information from the various Federal departments, commissions, and independent agencies that, under prevailing organization, it could not as easily obtain if it were located at a level coequal or subordinate to the divisions of Government whose programs it must review. Reinforcing this consideration is the distribution of environment-affecting activities among almost every Federal agency.

Objection may be raised that there are already too many councils and committees established in the Executive Office of the President. Some students of public administration argue that a simplification of structure and a clarification of existing responsibilities should take precedence over any new programs or agencies. The answer to this objection lies in an assessment of relative priorities. Is each of the councils or comparable agencies now established in the Executive Office of the President more important, of greater urgency, or of more direct bearing upon the public welfare, than the proposed Council on Environmental Quality? What criteria indicate how many conciliar bodies are "too many"? These questions are not merely rhetorical. Although they cannot be answered here, they are obviously germane to the issue of governmental organization and to the way in which national environmental policy is formulated and made effective.

A strong case can be made of a major restructuring of the Federal departments in which public responsibility for the quality of the environment would, like defense or foreign relations, become a major focus for public policy. Proposals tending in this direction and chiefly affecting the Department of the Interior have been made over several decades. A prominent news magazine took up this line of reasoning in a recent editorial declaring that " * * * the Secretary of the Interior ought to be the Secretary of the Environment." But a major restructuring of functions in the Federal administrative establishment cannot be accomplished easily or rapidly. Such a development would be most plausible as a part of a more general restructuring of the executive branch. The multiplication of high-level councils and interagency committees may indicate that a restructuring

is needed. (See app. C.) Some of the complexity of present arrangements for policy formulation and review reflects the confusion often attending a transition from one set of organizing concepts to another.

Among the concepts that have been proposed to reduce the burden of the Presidential office and to provide a more simple and flexible administrative structure, is that of the "superdepartment." One of these agencies already exists as the Department of Defense. A Department of the Environment might be another. The substance and character of the organizational changes that superdepartments might imply are germane to a discussion of environmental administration, but they require no further exploration in this report beyond the following three points: *First*, they would be fewer in number than present departments, probably no more than seven to nine; *second*, they would be oriented broadly to services performed for the entire population, and *third*, they would be planning and coordinative rather than directly operational, assuming, to some degree, certain of the tasks that now fall heavily on the Executive Office of the President.

There may be another answer to the need for a more effective review and coordination of related functions in diverse agencies in the concept of "horizontal authority" or matrix organization. This organizational arrangement has been employed in multifunctional, cross-bureau, projects in the Department of Defense and in the National Aeronautics and Space Administration. Under a temporary structure for project management, it structures across normal hierarchical lines and working relationships among the necessary personnel and skills. The concept might be applicable to interagency attack upon specific problems of environmental policy.

Review of national policy, and revision if and when needed, are functions that the Congress performs for all major policies of Government. The device of an annual or biennial report from the President to the Congress on the state of the environment offers the logical occasion for an examination by the Congress, not only of the substance of the President's message, but of national policy itself. In many respects, the transmission of an annual report on the state of the environment accompanied by a clear and concise statement of the Nation's goals, needs, and policies in managing the environment could attain many of the ends sought by those who propose reorganization.

SUMMATION

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelating aspects of man's dependence upon his environment. Through science, we now understand, far better than our forebears could, the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now costing us dearly, not merely in opportunities foregone, in impairment of health, and in discomfort and inconvenience, but in a demand upon tax dollars, upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deterioration will run. The cost of remedial action and of getting onto a sound basis for the future will never be less than it is today.

Natural beauty and urban esthetics would be important byproducts of an environmental quality program. They are worthy public objectives in their own right. But the compelling reasons for an environmental quality program are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life-sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaptation to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers and in one form or another must now pay directly the costs of obtaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of an environmental quality

program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner we may find ourselves confronted, even in this generation, with environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

EXHIBIT 2

MANAGING THE FEDERAL GOVERNMENT

(By Stephen K. Bailey, in "Agenda for the Nation," Brookings Institution, 1968, pp. 301-321)

The President of the United States faces a crisis of public confidence in the capacity of the federal government to manage itself and to carry out with efficiency, equity, and dispatch its own legislative mandates.

The seriousness of this issue can hardly be overstated. In question is the capacity of an eighteenth century constitutional arrangement of widely diffused and shared powers and a nineteenth century system of political pluralism to deal effectively with twentieth century problems of technological, social, and economic interdependencies—at home and abroad.

Unless the President devotes substantial attention to making the system work—an effort involving persistence and the employment of high political skills—the consequences for the future of the American policy could be serious in the extreme.

The programs and policies of the government of the United States are currently carried out by a diverse collection of political, administrative, and judicial systems. (The last of these is not treated in this paper.)

The descriptive and taxonomic problems alone are almost grotesque in their complexity. One may list and classify the obvious. The federal government of 1968 contains: three constitutional branches—legislative, executive, and judicial; an Executive Office of the President with a half dozen major constituent units and scores of minor councils and committees; four operating agencies exclusively responsible to the Congress, which itself is divided into two houses, forty standing committees, and more than two hundred subcommittees; twelve cabinet departments; fifty independent agencies, nine of which are independent regulatory commissions with both quasi-legislative and quasi-judicial authority; fifty-statutory interagency committees; 2.8 million civilian employees, 90 percent of whom are employed in federal field offices outside of the Washington, D.C., area; and 3 million military employees.

This gross breakdown suggests the magnitude and diversity of the enterprise, but it is only the tip of the iceberg. For federal policies are today carried out through a bewildering number of entities and instrumentalities: subdepartmental and subagency offices, branches, divisions, units—headquarters and field; hundreds of nonstatutory, but more or less permanent, intra-agency and interagency committees and commissions; grants-in-aid to fifty-five state and territorial governments and their hundreds of subdivisions, including tens of thousands of local governments, with more than 20,000 local school districts; a growing number of quasi-public, nonprofit corporations; scores of international and regional organizations; and myriad contracts to private industries, universities, professional groups, and charitable institutions.

Many of these subsidiary agents have their own separate identities, legal bases, and agenda of priorities apart from their instrumental (and often incidental) role in federal policy implementation.

This almost limitless diffusion presents internal problems of communication and control and often makes terms like "accountability" and "responsibility" words of art to cover a kaleidoscope of administrative fragmentation.

Even if the scene were not so cluttered, even if the formal structure of executive departments, agencies, and personnel were exclusively responsible for the implementation of federal policy, our constitutional system of shared powers and the pluralistic and oligarchical nature of political parties and interest groups would interfere with any neat model of hierarchical loyalty and public accountability. Elmer E. Schattschneider once commented that the history of the federal government could be written in terms of a struggle between the President and the Congress for control of the bureaucracy. But even this is too simple, for the struggle is not just between the President and the Congress: within the Congress,

committee and subcommittee chairmen, often allied with powerful private group interests, exercise extraordinary control over the policies and administrative arrangements of subdepartmental and subagency units of the bureaucracy.

If we lived in a simpler and less apocalyptic age, such a complex arrangement might be tolerated without fear of untoward disruptions to basic social values. But this is not the case. The American national government is confronted with unprecedented factors that place an absolute premium upon improved managerial competence in the public sector:

Government decisions involve increased stakes and risks, while mistakes are much harder to retrieve.

Science and technology have penetrated national security, environmental, and social strategies in a way that imposes acute moral and philosophical burdens upon public policy.

The dimensions of public spending require a modern President to monitor spending, taxing, and wage-price relationships with unprecedented precision, and to take stabilization actions without regard to the costs to his political credit balances; he is now obliged to be a conscientious student of economics.

"People" problems no longer lend themselves to straight-line solutions, and a President finds that he must work overtime to compensate for failures of administrative response and to teach a new administrative style to reluctant bureaucrats and congressmen.

Shortened decision intervals and reaction times drive a President to form his calculus of strategy on the run, as it were, placing a premium on accurate and adequate information systems and analytic support.

The modern President lives with a relentless social criticism that generates dissatisfactions with the quality of life and leadership and tends to force his timing and priorities.

In this kind of world, the President, by the logic of his position, must have two overriding managerial concerns:

How can the federal government identify, mobilize, train, and release the energy of the most impressive talent in the nation for developing and carrying out federal policy?

How can staff and line arrangements in the executive branch contribute to more rational and imaginative policy inputs to political decision making, and how can they contribute to more effective and coordinated policy implementation?

These two concerns must be specifically related to the modern President's inevitable preoccupations in the field of public policy: national security, economic stability and growth, environmental management and control, and human resource development.

Concretely, in national security affairs modern Presidents cannot afford a series of "Bay of Pigs" episodes, nor can they afford contradictions between diplomatic and military initiatives. In domestic affairs, they cannot afford to allow brave legislative responses in the fields of environmental management and control and human resource development to be blunted by ineptness and confusion in implementation, as has been the case with much of the Great Society legislation of 1965-65. In economic affairs, Presidents cannot afford to return to earlier days when the varying power centers of economic stabilization policy making (notably key congressional committees, the Budget Bureau, the Council of Economic Advisers, the Treasury, and the Federal Reserve Board) went their separate ways. To do so would be to invite economic disaster.

The difficulty is that the magnitude of the political as well as administrative tasks in assuring some modicum of competence and coherence in these preeminent areas of public policy is staggering. For there are no organizational gimmicks capable of overcoming the enormous centrifuge of governance in our pluralistic society.

An attack upon the managerial inadequacies of the federal government should encompass at least the Executive Office of the President, the departmental and agency structure, the federal field office structure, the devolution system for the transfer of federal funds and functions to nonfederal agencies, and the federal personnel system. As we shall note later, none of these five points of attack can be negotiated without major presidential attention to the configurations of power dominating the Congress.

Before examining policy alternatives and recommendations relating to each of these separately and in combination, a brief review of federal reorganization efforts of the past several decades is in order, for future possibilities are inevitably conditioned by the legacy of the past.

REORGANIZATION: A BRIEF HISTORY

Concern with the organization and management of the national government goes back a long way. The first study was commissioned by the Continental Congress in 1780. For the first century of this nation's history, however, investigations into these issues were feeble and intermittent.

It was only when the federal budget approached the billion-dollar mark, during the administration of President William Howard Taft, that a major attempt was made to examine questions of overall structure and procedures. And even the Taft Commission on Economy and Efficiency (the Cleveland Commission, 1910-13) devoted most of its energies to minute problems of internal management. The major fruit of its labors was the Budget and Accounting Act of 1921, which established the Bureau of the Budget (BOB) in the executive branch and the General Accounting Office in the legislative branch. The Bureau of the Budget was the first nonwartime centripetal staff agency available to the President for the conduct of his managerial responsibilities.

The 1920s witnessed a variety of additional proposals, both legislative and executive, focused on administrative reorganization. Most of the major recommendations got nowhere. Occasional authorizations were given to the President for minor reassignments of functions across agency lines, but Congress systematically pigeonholed or voted down any major delegation of power to the President for reorganizing executive branch functions.

In 1932, President Herbert Hoover submitted a message to the Congress calling for a massive reorganization of the executive branch. In a classic statement of the "practical difficulties of such reorganization," he commented as follows:

"Not only do different fractions of the Government fear such reorganization, but many associations and agencies throughout the country will be alarmed that the particular function to which they are devoted may in some fashion be curtailed. Proposals to the Congress of detailed plans for the reorganization of the many different bureaus and independent agencies have always proved in the past to be a sign for the mobilization of efforts from all quarters which has destroyed the possibility of constructive action."¹

How penetrating this observation was can be judged by the fact that after the law was passed every executive order submitted by President Hoover to implement the act was disapproved. Furthermore, the law itself provided for key exceptions to the President's sphere and requested him to set up consolidations of the following governmental activities:

"Public Health (*except that the provisions hereof shall not apply to hospitals now under the jurisdiction of the Veterans Administration*), Personnel Administration, Education (*except the Board of Vocational Education shall not be abolished*) . . . and to merge such other activities, *except those of a purely military nature*, of the War and Navy Departments, as . . . may be common to both . . . *except that this section shall not apply to the United States Employees Compensation Commission.*"²

This was not the first nor was it to be last of such explicit exceptions to the reorganization authority of Presidents.

The coming of the New Deal brought a totally new dimension to the policies and organization of the executive branch. A bevy of new laws created a host of new agencies and a variety of new functions within old agencies. And President Franklin D. Roosevelt had no institutional machinery for rationalizing and resolving emerging administrative issues, or for supervising in any meaningful sense the hundred-odd separate departments and agencies that reported directly to him.

In 1936, President Roosevelt created the Committee on Administrative Management under the chairmanship of Louis Brownlow. The report of the Brownlow Committee was probably the most sensible and impressive ever made on federal government organization. Many of its recommendations, notably those concerned with the independent regulatory commissions, the Civil Service, the General Accounting Office, and new cabinet departments, were largely ignored by the Congress. Its lasting contribution was the successful recommendation to create an Executive Office of the President (EOP) containing an expanded White House staff, the Bureau of the Budget (until then housed in the Treasury Department), and a National Resources Planning Board. Although the last was killed by con-

¹ W. Brooke Graves (comp.) *Reorganization of the Executive Branch of the Government of the United States: A Compilation of Basic Information and Significant Documents, 1912-1948*, Library of Congress, Legislative Reference Service, Public Affairs Bulletin No. 66 (1949), p. 96.

² Graves (comp.), *Reorganization of the Executive Branch* (emphasis supplied).

gressional action in withholding appropriations in the early 1940s, the essential rubric of the Executive Office has remained. It is inconceivable that the government could have successfully negotiated the turbulent currents of the past quarter century without it.

The Second World War saw the inevitable proliferation of war-related agencies, most of which disappeared at the end of the conflict. But the experience of war, especially the difficulties of relating separate military services to the consolidated demands of amphibious warfare and the serious problems of interrelating diplomatic and military initiatives and intelligence, led in 1947 to the National Security Act which created a National Defense Establishment, a National Security Council, and a Central Intelligence Agency. It would take time for these components to emerge into any kind of structural coherence, but the 1947 act set the foundation stone for the future.

In the immediate postwar years, the other major organizational development was the creation of the Council of Economic Advisers in the Executive Office of the President. This added staff resource has been of invaluable help to the President and the Congress in analyzing the state of the economy, in planning fiscal policy, and in acting as the major catalyst of interagency (BOB, Federal Reserve, Treasury) cooperation on fiscal matters.

Also in 1947 President Harry Truman asked Congress to create a bipartisan, twelve-man Commission on Organization of the Executive Branch of the Government.

The Commission (the First Hoover Commission) reported, and at length, in 1949. A number of its recommendations were adopted, under President Truman and later under President Dwight D. Eisenhower: the creation of a Department of Defense (replacing the National Defense Establishment); the assignment of the National Security Council to the Executive Office of the President; the creation of a cabinet-level department of Health, Education, and Welfare (HEW); and the centralization of increased authority in department heads, cutting away at some of the statutory authority that Congress had assigned at the subdepartment level. But many sacred cows were left undisturbed, and the commission's plea for a "sharp reduction" in the number of federal administrative agencies fell upon deaf congressional ears.

A Second Hoover Commission was created in the mid-1950's; but its mandate, to examine governmental functions which should be discontinued, was preposterous, for it invaded the constitutional prerogatives of President and Congress. The commission's effective residue was little more than a chemical trace.

Aside from Secretary Robert S. McNamara's progress in transforming Defense from a *de jure* to a *de facto* department, the creation of an Office of Science and Technology in the Executive Office of the President, and the assigning of a White House role to the chairman of the Civil Service Commission, no substantial success greeted the John F. Kennedy administrations' various attempts to reorganize the government.

President Lyndon B. Johnson has succeeded in adding two new cabinet departments: Housing and Urban Development (HUD), and Transportation. He also added the Office of Economic Opportunity (OEO) to the Executive Office of the President. During his administration a number of task forces have addressed themselves to questions of government organization—especially in the increasingly tangled thicket of intergovernmental relations as they relate to problems of poverty, race, welfare, urbanism, and education.

However, most of the underlying problems of organization remain. These have been illuminated time and again by presidential task forces, by congressional committees, by journalists, pamphleteers, and scholars. Congressional literature is particularly rich. Notable in recent years have been the studies of the Jackson Subcommittee on National Security Staffing and Operations and the Muskie Subcommittee on Intergovernmental Relations of the Senate Committee on Government Operations. More recently committees in both the Senate and the House have examined the adequacy of federal organization for mounting a coherent attack upon problems of the physical environment.³

Although these various studies, investigations, and proposals have differed in viewpoint and attack, there has emerged in recent years a consensus on two major issues: (1) the federal government lacks machinery for the effective development, implementation, and coordination of public policy; and (2) the conduct of the government's business is overcentralized in Washington.

³ See esp. *Managing the Environment*, Report of the House Committee on Science and Astronautics, 90 Cong. 2 sess. (1968); and *Report of the Joint House-Senate Colloquium to Discuss National Policy for the Environment*, 90 Cong. 2 sess. (1968).

Proposed remedies have included recommendations for the enlargement and restructuring of the Executive Office of the President; the consolidation of federal programs and functions into a few major departments; the strengthening of staff offices at the level of the secretary; making a departmentwide (secretary's) presence felt in federal field establishments; upgrading the quality and enlarging the power and discretion of federal field offices at home and abroad; devolving the conduct of federal business increasingly upon state and local authorities and upon private or quasi-public instrumentalities; and reform of the career services and upgrading of public personnel charged at various levels of government with the conduct and control of federal policy.

Whatever merit these various recommendations have had (and this paper will later explicate and endorse a number of them), they have tended to suffer from two overriding limitations: first, as commonly set forth, they have ignored the realities of congressional power, the rigidities of the present congressional committee structure, and the mutual deference patterns within the legislative branch, all of which affect the organization and conduct of federal programs; second, many of them have failed to articulate some of the administrative and policy costs and consequences possibly attendant upon their adoption. It is possible, for example, that unless extreme care is taken program coordination can be the enemy of program energy. "Keeping track" may be the enemy of "making tracks."

It may be argued, of course, that this dilemma is false; that topside planning and coordination is the precondition, not the enemy, of effective subordinate energy; that if program coordination is not rationally produced at the top it will be irrationally and wastefully accomplished through survival-of-the-fittest skirmishes at lower levels. This, in fact, is the author's own considered judgment. But to state the ideal is a far cry from realizing it in practice, and history suggests that arrangements constructed to achieve this ideal are inherently unstable—tending to veer toward the Scylla of a debilitating overcentralization on the one hand, or the Charybdis of programmatic anarchy on the other. All one can say at this moment is that historically in the United States more bones have been scattered around Charybdis than around Scylla. To change the idiom, constitutional and political beliefs and forces tend to run against generalist "kings" in favor of functional "barons."

THE LIMITATIONS OF EXISTING DEVICES

The validity of the foregoing proposition hardly needs elaboration. It can be readily documented by examining the weakness of centripetal devices now in

More often, the President has used his "anonymous" White House assistants

First, there is the device of statutory or ad hoc interdepartmental and interdepartmental committees. There are thousands of them in the federal government alone, including a number in the Executive Office of the President. Most of them suffer from three chronic ailments: (1) confederationitis, (2) progressive deputization, and (3) implemental anemia. The first leads to common-denominator "paper" solutions for problems frequently calling for uncommon-denominator practical solutions. The second, marked by preoccupied secretaries requesting under secretaries to sit in for them, who in turn deputize assistant secretaries, who in turn deputize deputy assistant secretaries, ad infinitum, leads inevitably to a loss in the plenipotentiary capacity of the committee members, and of the necessity of referring every important issue back to each agency for topside clearances. The third means that, even if and when consensus can be reached within an interdepartmental committee, such consensus is not self-enforcing and can, in fact, be rendered inoperable by the failure of constituent units to implement the decision reached. When such committees are established by congressional mandate, further complications arise, for they cannot easily be disbanded nor their agenda adapted to new issues. If they become well-staffed and effective, they may interpose themselves between the President and his department heads and develop a policy line out of phase with both.

Necessary as such committees are, their numbers should be drastically pruned, and in any case they are no solution to most problems of program planning, coordination, and operational effectiveness that afflict the public sector.

Second, the "lead agency" notion, however attractive in theory, seems to have similar limitations. Bringing all relevant agencies together for specific program purposes under the chairmanship of the head of the department that has major concern or competence in a particular policy area would seem on its face to be a reasonable approach. But, since everyone likes to coordinate and few like to

be coordinated—especially by one's peers—this device tends to degenerate into a simple interdepartmental committee with all of the inadequacies suggested above. Low-level issues may be thrashed out and clarified; tough issues of jurisdiction and authority rarely are, for disgruntled committee members have the option of appeal to centers of power in the presidency or in the Congress that can effectively override the decisions of the lead agency. The history of OEO, HUD, and HEW in that role is not encouraging, although some promise can be found in some of the lead-agency functions performed in foreign affairs by the Department of State.

A third device is coordination by presidential advisers, White House assistants, or by other representatives of the Executive Office structure. This has been attempted in various forms over the past decades. Sometimes the job has been given to individual men of considerable stature and ability (for example, Colonel Edward M. House, Harry Hopkins, "Jimmy" Byrnes, Sherman Adams, a vice president). The *de facto* "prime" minister, or executive vice president, device suffers, however—at least, in our form of government—from two intractable flaws. If he is strong, he tends to shield the President from issues, information, and forces essential to presidential judgment and power; if he is weak, he tempts others to go around him, thereby creating rather than solving problems for the chief executive.

More often, the President has used his "anonymous" White House assistants and his major institutional staffs in the Executive Office of the President to assist him in program planning and coordination. However successful this fairly flexible arrangement has been (and, if it had not been partially successful, the federal government could not operate at all), it has serious weakness. If the President defends his intimate staff too often, he has created a supercabinet; if he does not defend them at all, they are powerless. If he institutionalizes them, their time is preoccupied with managing their own subordinates, limiting their time and tolerance for intimate contacts with the President; if he does not institutionalize them, they become swamped by paper from below and expectations from above. And in many areas of public policy where the President himself is weak (programs under the jurisdiction of independent regulatory commissions; agencies like the Atomic Energy Commission and the Army Corps of Engineers that are effectively controlled by congressional committees), presidential staff, no matter how brilliant, are limited by legal and political reality.

This rather melancholy sample of centripetal coordinating devices and their weaknesses is not meant to suggest that nothing has been done or can be done to improve the coordination of policy planning and implementation in the federal government. There have been many evidences of at least partially successful endeavors along these lines. The Bureau of the Budget at its best is a remarkable and indispensable coordinating device, especially when buttressed by informational and analytical skills of cognate agencies like the Council of Economic Advisers and the Office of Science and Technology. Presidential assistants play out a daily drama of conflict resolution and program rationalization. The transformation of the Department of Defense under Robert McNamara is an indication of what at the departmental level can be done, in Paul Appleby's felicitous phrase, "to make a mesh of things." The development of analytical instruments like PPBS (Program Planning and Budgeting System) shows promise of making resource allocation choices more coherent and rational.

But enormous inadequacies remain and they cannot be redressed effectively without a sober recognition of the fact that the battle for improved federal management must be fought on a number of fronts simultaneously. The five major salients already identified need particular attention: the Executive Officer of the President; departmental arrangements; federal field establishment; the devolution system; and personnel systems at all levels.

Executive Office of the President

The presidency is the only institution in the American polity where overarching and long-range public imperatives can be coherently analyzed and melded. This is true both because of the ubiquity of the presidential constituency, and because the President is mandated to recommend to the Congress a coherent program for allocating resources to and within the executive branch.

The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive.

In the present age, as already noted, these prime concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses.

Because priorities change and, more important, because each President has his own leadership style, he must be given very substantial latitude in organizing, reorganizing, and adjusting the constituent units of his executive office. He must also have at his disposal substantial discretionary funds (\$25,000,000 per year as a minimum) to permit him to tap selective expertise across the nation on an ad hoc basis, and to initiate in-house experimental capabilities for improving the planning and management functions of the office. The present discretionary funds of the President for "special projects" (\$1.5 million) are totally inadequate.

If the President can secure from Congress the right to structure and manage his own office without restriction—including the right to make in-office appointments without Senate confirmation and the right to create, shift, and abolish constituent units and personnel assignments as he deems necessary for the effective conduct of presidential business—he will have won a major victory for effective public management. These prerogatives are essential if he is to have authority anywhere near commensurate with his administrative and policy-making responsibilities.

Granted this kind of authority and discretion, what should he do with it? Although each President will and must use them according to his own temperament and administrative proclivities, three weaknesses exist in Executive Office of the President capabilities so glaring as to merit special emphasis.

First is the office's weakness in policy development. The presidency is perched on top of what one astute observer has called "a bottom-heavy administrative system." Policy proposals tend to emerge from levels of operational enthusiasm, which are likely to be the lower and middle governmental levels, coupled with discrete, single interest segments of the private sector. Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency in the Executive Office of the President charged with the study of emerging public problems and the development of effective programs to deal with them in terms of continuing and changing presidential perspectives of the public interest. This is less true, of course, in the occult fields of economic stabilization policy and national security policy where the Council of Economic Advisers and the staff of the National Security Council have increasingly strengthened their policy-review capabilities. But in the increasingly troublesome and important areas of environmental management and "people" programs (health, poverty, education, welfare, housing, urban renewal, and the like) the EOP is patently deficient. Existing budgetary and legislative clearance reviews are inadequate. There is no underlying statistical and informational system of social and environmental indicators comparable to the economic indicators available to and through the Council of Economic Advisers. Whatever its original intent, the Office of Economic Opportunity has become an operational advocate, not a reflective center of governmentwide policy analysis. Since the demise a quarter of a century ago of the National Resources Planning Board, no presidential staff has concerned itself full-time with ecological interdependencies. The only gestures in this direction in recent years have been the Committee on Environmental Quality of the Office of Science and Technology, and a Water Resources Council independent of the Executive Office structure. The former is too small and weak to be effective (ideally, it should be reconstituted as a separate, strongly staffed office in the Executive Office of the President); the latter is limited by statute to water resources alone.

Whether effective policy analysis staffs in the environmental and human resource areas should be combined or kept separate, should be created inside the Bureau of the Budget or as a new and separate agency within the EOP (on balance, the author's choice) is perhaps of secondary importance. What is essential is that such a capability exist in the Executive Office of the President. Coherence and rationality in federal programming in these areas is impossible without such a capability. This is true in Washington; it is increasingly true in the complex arena of intergovernmental relations. State and local governments are federal partners in the purveyance of public services; their capacity to develop programs that effectively complement and implement national policies is today a matter of crucial importance. Too often they are bound by rigidities

and categorical overprescriptions imposed by federal legislation and by administrative regulations and guidelines. There is a pervasive need to loosen existing categorical boundaries without destroying the basic thrust of federal categorical grants designed to promote the national interest.

One possible device to meet this need might be for the President to assign staff from his executive office and/or relevant departments and agencies to ride budgetary circuits in the fall of each year. Such staffs, with advance congressional approval, might be empowered to permit state and local governments to shift up to, say 25 percent of approved categorical federal grants from one category to another; this would make the grants more relevant to varying state and local needs and would promote a series of useful dialogues between the partners of the federal system.

The second weakness of the President's office is the inadequacy of machinery for command and control within the sphere of his own executive competence. As suggested earlier, there are many areas of policy in which for reasons *de jure* or *de facto* the President has authority only to persuade and cajole, or in which he must repair to informal powers deriving from his political rather than his constitutional status. But even when his legal authority is clear, he lacks efficient means of enforcing his political will. Little is gained in strengthening the policy analysis capabilities of his office unless he can effect more coherence in policy implementation. It is true that knowledge can be power, and the President's directive responsibilities can probably be exercised with greater effectiveness if his policy analysis staffs are able to create information systems that include hard and systematic evaluations of federal programs. But the President's present span of control is so unwieldy, his budgetary flexibility is so limited, and his managerial universe is so ponderous that intelligence alone will not give his directives appropriate clout. If two or more agencies chart collision courses or if they determine to ignore presidential guidance, there is little the chief executive can do short of ultimate sanctions (such as firing) that often have prohibitive political costs.

It is this reality, of course, that has led a number of administrative reformers to suggest that the President needs one or more executive vice presidents or presidential coordinators to whom he can delegate command functions over parts of the executive branch, including his cabinet departments, in Washington and in federal field establishments. The inconveniences and political hazards of such devices and developments have already been traced. But the problem remains, and the need is real.

There is no single and easy solution to the problem, but if the President is given the kind of flexible control over his own office called for above, he should certainly use this elaborated discretion to experiment with a number of command-control devices. At the very least, he should create a team of two or three or four presidential "administrators" or "expeditors," removed from the day-to-day preoccupations of existing White House aides, who could be assigned on an ad hoc and short-term basis as troubleshooters to straighten out jurisdictional conflicts among agencies, both in Washington and (on an itinerant basis) in the field. "Ad hoc" and "short-term" must be underlined, for permanent and long-term portfolios for such assistants could only produce impossible tensions with cabinet secretaries, agency heads, and key legislators. Furthermore, they might easily create centers of power in the executive branch competitive with, rather than derivative of, presidential authority. Such administrators or expeditors must be men of considerable personal stature. As surrogates for the chief executive in a system inherently unfriendly to surrogates, they must be skilled in mediation, soft of voice, wise in the ways of politics, and utterly devoted to the President—institutionally and personally. The President must be prepared to support their judgments in the overwhelming majority of cases while being willing on occasion to overrule them on appeal. This complex prescription may prove to be impossible of implementation, but it is the only one that, in the judgment of this author, gives promise of success.

The third and final major weakness of the presidential office is in communicating with the public and with state and local officialdom. Here, too, there are constraints. Too "open" a presidency can build impossible expectations, induce claimants to bypass channels of access to departments and to Congress, clog the President's information system, and preclude that measure of confidentiality necessary for face-saving negotiations. Too frequent use by the President of the mass media dilutes the President's "Nielsen rating" with the consequent danger of limiting his impact when real crises appear.

But inadequate communications, both inward and outward, can be equally perilous. Fresh ideas from creative citizens, and from public officials at all levels of government, can be lost or ignored. A public bewildered by complex public problems can be denied the clarifying and unifying voice of the President. In such circumstances, the chief executive can easily become vulnerable to surprise and miscalculations.

Adequately mandated policy analysis staffs and presidential expeditors with sensitive antennae can remedy some of the existing defects in communication flows, but far more needs to be done to help the President develop effective techniques and policies. A public information competence must be built into the White House, possibly in an enlarged office of the press secretary, and at least one unit in the White House should be devoted to intergovernmental liaison with governors and with top officials of local government.

There are still other weaknesses in the Executive Office at the President. First, there are far too many statutory and ad hoc interdepartmental councils and committees with fuzzy mandates, little or no power, and only intermittent and unsatisfactory access to the President himself; these should be abolished or consolidated with more permanent staff operations. For example, the National Aeronautics and Space Council and the Marine Resources Council should probably be placed under a comprehensive Office of Environmental Analysis. The whole structure of citizens' advisory committees to the President should be reviewed and rationalized.

Second, the White House needs an even greater capability to identify talent for appointive federal positions in both domestic and international departments and agencies. It is an unfair strain upon the chairman of the Civil Service Commission to serve both as director of the President's personnel operations and as the policy chairman of the major career service of the federal government.

Third, the operational aspects of the Office of Emergency Planning (for mobilizing the services of all levels of government to meet emergencies of war or natural disaster) and the Office of Economic Opportunity should devolve upon other agencies (the General Services Administration for Emergency Planning; HEW and/or Labor for OEO), although in the case of OEO extreme care must be taken to insure that the innovative and flexible characteristics of many of its programs are not destroyed by transfers to more traditional and conservative bureaucratic superiors. It should be possible for some civilian counterpart to the "Green Beret" or Marine Corps mission-oriented services, often competitive with more massive and sodden bureaucracies, to be established (and disestablished) within existing departments or as functions of independent agencies. The Executive Office of the President is not the appropriate rubric for these kinds of operating line activities.

Fourth, the staff competence within the Executive Office (presumably within the Bureau of the Budget) for studying and recommending structural changes and procedural improvements throughout the executive branch organization, on a continuing basis, needs to be strengthened in quality, size, and funding.

All of these are important addenda to the three essential areas of concern identified earlier. Progress along all of these lines can best be promoted by giving to the President effective control over the organization, staffing, and missions of the Executive Office of the President. If this is to happen, as we shall note below, the President must ask for and receive the understanding, support, and assistance of the United States Congress.

Departmental structure

One of the basic tenets of public administration is "span of control." In its simplistic form, at least in the federal government, it is a silly notion. The number of units reporting to a single administrator is not the essential factor in determining topside control. Ten units are too many if each has its own base of power in the legislature or in clientele groups of significant political influence. A hundred units are manageable if most of them lack an independent base of power, and if their mission is precise and low voltage. Little is gained or lost in terms of "good management" in the executive branch if the Corregidor-Bataan Memorial Commission, the American Battle Monument Commission, the Commission of Fine Arts, the Foreign Claims Settlement Commission, and the Panama Canal Company are allowed to continue as independent, free-wheeling agencies. Those who would tidy up the administrative structure of the executive branch by putting everything under four or five giant-sized superdepartments, or under fifteen or twenty economy-sized regular departments, on the ground that only

then can the President enjoy a manageable "span of control," overestimate the importance of the precept and underestimate the difficulties of achieving intra-departmental, let alone interdepartmental, coherence in anything as complex and diffuse as the federal government.

This is not to say, however, that the present structure of departments and agencies is either logical or efficient. Some regrouping and much internal reorganization, especially at the bureau level, is patently necessary. But since both of these kinds of moves involve political headwinds of gale force, a President should pick and choose a few major objectives and should calculate his political rations with extreme care.

The difficulty is that across-the-board generalizations about federal departments and agencies are inherently dangerous or irrelevant. Some are probably too large and heterogeneous (for example, HEW); some are too small and/or clientele-oriented (Labor, Commerce, Veterans Administration (parts of Interior, Agriculture, and HUD)); some are too independent (certain regulatory commissions); some are too dependent upon Congress (Atomic Energy Commission, the Corps of Engineers, the FBI); some are miscast as cabinet departments (Post Office); some are too plagued with ingrown career service elitism (State); some lack the internal capacity or external support to generate and sustain high morale (Agency for International Development.) A general diagnosis and a general therapy are, in short, effectively impossible.

It is possible, however, to raise questions about departmental and agency structure relating to at least two of the four overarching concerns of the President: environmental management and control, and human resource development.

This is not to say that is well in the field of administering national security policy and economic stabilization policy—though the administrative machinery in the latter field has functioned relatively smoothly in recent years. While space does not permit an extended discussion here of problems in the national security area, it must be noted that the overseas mishmash of federal agency representatives still escape effective control by the ambassador in the field or by the Department of State in Washington. The inflow of information and intelligence by cable and pouch has long since passed the point of digestibility. Horizontal and lateral clearances absorb an unconscionable amount of time and effort and involve delays that are sometimes dangerous. Some of these difficulties defy organizational rationalization; others might be partially obviated by an appropriate delegation of authority to regional assistant secretaries of state and by a more elaborate and effective staffing of the office of the Secretary of State. In 1962 the Herter Committee on Foreign Affairs Personnel recommended an executive under secretary of state, a further administrative option that deserves careful consideration.

On major and critical issues of foreign affairs the threat of apocalyptic consequences has a way of crystallizing small cadres of influentials under the immediate direction of the President. Emerging policies may not always be wise, and the ponderousness of the structure and the system of communications may at times create crossed signals of serious consequence (as when in 1966, peace negotiation with North Vietnam were reputedly shattered by the President's unrecollected prior approval of bombing selected targets near Hanoi). But after a decade of review of national security machinery, the Jackson Subcommittee, although it has recommended a number of incremental improvements, has found no magic formula for a major structural reorganization. All that can be said is that the importance of the issue suggests that urgent and continuing attention must be given to the adequacy of staff arrangements for serving the President in this area of preeminent executive concern.

On the domestic front some major structural changes may well be needed in organization. Those involving the Executive Office of the President have already been discussed. At the departmental and agency level, four questions especially warrant hard analysis and viable answers:

First, how can the management responsibilities of cabinet secretaries and the heads of important line agencies be strengthened without throwing a wet blanket on the morale, energy, and discretion of subordinate operating bureaus?

Second, how can a gigantic hydra like HEW be split up without losing the benefits that logically accrue from reviewing health, education, and welfare as inter-related programs and values?

Third, how can the rule-making power of independent regulatory commissions be more effectively related to the policy mandates assigned by Con-

gress to the President and to departments and agencies without jeopardizing the integrity of the quasi-judicial role of regulatory commissions?

Fourth, how can agency functions be regrouped in the human and environmental resources area in such a way as to promote more coherent program planning and implementation without taking on more battles with vested interests than any single administration can afford?

Again, there are no simple answers to any of these dilemmas, but certain directions seem more promising than others.

On the first question, the essential controls of an agency head over constituent units are three, and only three: (1) control of legislative proposals; (2) control of budgetary totals; and (3) control of major personnel appointments and assignments. Each department secretary and agency head should have a staff, a management information system, and adequate legal and political authority to develop and maintain competence in these areas. The staff need not be large, but it must be highly competent and must be supported with a flow of information that will enable it to present rational policy alternatives to the agency head. With these tools of general, overall management at his disposal, an agency head can delegate to line subordinates a substantial amount of operating discretion. He can also be equipped to serve the President and the Congress in their roles of making politically accountable decisions. Many departments lack the staff, the information system, and the legal and political authority essential for responsible management. The President should urge, and Congress should support, reforms leading to the improvement of this condition.

On the second question, there is probably more to be gained than lost in splitting up HEW. The issue is not the number of employees; Defense, Post Office, Agriculture, and the Veterans Administration all have a larger civilian work force. The issue is the heterogeneity of constituent functions, the size of the budget (HEW's budget is five times greater than the next largest civilian agency), the extensiveness of mandated intergovernmental relations, and the limitations that the present structure imposes on attracting top-grade personnel to man programs of extraordinary national consequence—education, for example. A separate Department of Education would not only symbolize the importance of the federal government's commitment to an essential and growing public function; it would serve as a rubric for gathering together at least some of the educational activities being carried out by departments and agencies outside of HEW (for example, National Science Foundation, OEO, Veterans Administration, National Humanities Foundation, Bureau of Indian Affairs). A Department of Health and Welfare should have no more difficulty in relating to a Department of Education than HEW presently has in relating its disparate activities to cognate functions in HUD, Labor, OEO, in the human resource development area; or to Interior, Agriculture, and the Corps of Engineers in the area of environmental management and control. Granted that these difficulties are substantial, a strengthened program planning and implementation capacity in the Executive Office of the President could more than compensate for any loss in intergrating functions now lodged unsuccessfully in the top echelons of an overgrown HEW.

On the rule-making authority of certain independent regulatory commissions, the analyses and advice of the Cushman Report (part of the Brownlow Committee study, 1937) and of the First Hoover Commission (1949) need rereading and studied implementation. America will never have a coherent transportation policy until the rulemaking functions (making general legislative mandate specific) of the Interstate Commerce Commission and the Federal Maritime Commission are integrated with the policy responsibilities of the new Department of Transportation. America will never have a coherent power policy until the rulemaking functions of the Federal Power Commission and the Atomic Energy Commission are consolidated with those carried out by the Department of the Interior. There have been until now sufficient political barriers to changing the structure and functions of independent regulatory commissions to raise serious questions about the viability of new or reiterated recommendations. But the problem is real, and there are no inherent difficulties in separating rule making from the quasi-judicial functions (making judgments about the legality of activities pursued under laws and rules) of regulatory agencies, preserving the integrity of the latter while making the former subject to responsible and coordinated political control.

The fourth question, on the regrouping of agency functions in the human and environmental resource areas in the face of vested interests, is the toughest. It can be answered in practice only by sophisticated management studies buttressed by executive-legislative concordats. In the absence of major structural changes,

some experiments in establishing multiagency operational task forces under the command of presidential designees might well be undertaken—at least where target problems are fairly precise and short-term.

EXHIBIT 3

NIXON TASK FORCE URGES CREATION OF TOP-LEVEL ENVIRONMENTAL AFFAIRS POST

(By Peter Khiss)

President-elect Nixon has received a strong recommendation for naming a Special Assistant for Environmental Affairs, working out of the White House for the first time to dramatize concern over increasing pollution.

"The real stake is man's own survival—in a world worth living in," one of 10 task forces he named on domestic planning has reported to Mr. Nixon in an opening report that said Federal performance in the field thus far had been "disappointingly low."

"The gap between need [as indication by authorized funding] and appropriations in the air and water pollution abatement programs is critical and growing," the task force advised Mr. Nixon.

"For example, in fiscal year 1969, in the water pollution program, there is an authorization of \$836-million, an appropriation of \$302.8 million and a possible demand in available state and local matching funds of \$1.2-billion," it was stated.

The initial report was submitted to the President-elect last Saturday in New York by a 20-member Task Force on Resources and Environment, headed by Russell E. Train, president of the Conservation Foundation.

On that same day Mr. Train was reported to be under consideration for the post of Under Secretary of the Interior and was briefing the Secretary-designate, who is Gov. Walter J. Hickel of Alaska.

DETERIORATION CITED

Urging that "improved environmental management be made a principal objective of the new administration," the task force cited "progressive environmental deterioration," including the following:

"The poisoning of our lakes and rivers, the pollution of our air, the changing carbon dioxide content of the atmosphere, the progressive deterioration of the organic fertility of our soils, the pesticides and other chemicals that permeate our living environment, visual ugliness and urban sprawl, the growing inhumanity of our cities, the rising tide of human numbers that threatens to overwhelm us and our civilization."

The group said it was not suggesting any "mammoth new programs" but rather putting emphasis on "performance—on making existing programs work."

While noting that "a host of conservation-environmental legislation" had been enacted, it said the disappointing performance had "a similarity here to the civil rights and poverty fields."

Appointment of a special assistant in the field, it was said, "would give the President for the first time a means of effectively influencing environmental policy across a wide range of agencies."

The new office, it was suggested, would "deal with the problems of compartmentation and conflict—often between Cabinet officers—that arise constantly in resources and environmental matters."

LIAISON FORESEEN

The new assistant, the report went on, should work closely with the President's science adviser, the chairman of the Council of Economic Advisers and the Budget Director.

It was also proposed that the new assistant be executive secretary of a new President's Council on the Environment, which would represent a broadening of the present interagency Council on Recreation and Natural Beauty.

The task force proposed that Vice President-elect Spiro T. Agnew serve as chairman of the reconstituted council "to provide leadership superseding the interests of any single department."

"Federal programs with major environmental impacts, such as highway construction," it was said, "should take into account the side effects, such as air

pollution, which are the program responsibility of completely separate agencies. Present structure and, more important, present practice are grossly inadequate in this respect."

A supplementary paper on pollution asserted that "appropriations should be brought up close to authorizations" in Federal programs, but suggested that it would be better to reduce authorizations rather than let states and localities delay action "in unwarranted hope of Federal contributions."

SUGGESTION ON COSTS

This suggestion for possible Federal cuts drew a note from one task force member, Lelan F. Sillin, Jr., president of Northeast Utilities in Hartford, Conn., that it "should be eliminated."

The report's discussion of difficulties in tax incentives for reducing pollution or effluent charges as a means of control drew adverse comment from another member, John H. Meier, executive aide of Hughes-Nevada Operations, of Las Vegas, Nev.

Mr. Meier's comment was that "most of the polluters involve large-scale industry" and "should be required to carry the burden of removing the danger to the rest of the environment."

"If sufficient standards are set to guarantee public health and the enforcement is not interfered with by special interests who lobby against regulation rather than spend money on cleaning it up, the problem can be solved," Mr. Meier wrote.

Other task force members include :

Edward A. Ackerman, executive officer, Carnegie Institution.

Stanley A. Cain, professor, University of Michigan.

Charles H. Callison, executive vice president, National Audubon Society.

Joseph L. Fisher, president, Resources for the Future.

Loren V. Forman, vice president, Scott Paper Company.

Charles H. W. Foster, consultant, Conservation Foundation.

Maurice K. Goddard, Secretary of Forests and Waters, Pennsylvania.

Norman B. Livermore, Jr., Secretary of Resources Agency, California.

Charles F. Luce, chairman, Consolidated Edison Company.

H. Byron Mock, Salt Lake City lawyer.

Bernard L. Orell, vice president, Weyerhaeuser Company.

Nathaniel P. Reed, conservation adviser to Governor of Florida.

S. Dillon Ripley, secretary, Smithsonian Institution.

Laurance S. Rockefeller, chairman, Citizens Advisory Committee on Recreation and Natural Beauty.

John O. Simonds, Pittsburgh landscape architect.

M. Frederik Smith, American Conservation Association.

John W. Tukey, Princeton professor and executive-director of Bell Laboratory.

The CHAIRMAN. S. 1075 authorizes a program of studies, surveys, and research relating to the Nation's ecological systems and natural resources; establishes a Council on Environmental Quality in the Executive Office of the President; and declares a national policy for the environment. The intent of all these measures is to take action toward the establishment of a national strategy and a national capacity for the management of the human environment.

The introduction of these bills is a manifestation of public and Congressional concern which is widely felt and widely expressed. The concern is that we may be giving insufficient public attention to one of the most serious threats to the future well-being of our Nation and our civilization—the mismanagement and degradation of our physical environment.

The fundamental question our Nation and the Federal Government now faces was well stated in the background paper Professor Lynton K. Caldwell prepared at my request for the Committee's use. The question is this: "How should the Federal Government be restructured to deal more effectively with the growing stress upon our natural environment?"

Today's concern for problems of environmental quality goes far beyond the conservation of expendable resources and problems of waste disposal and public health. It encompasses all of these matters of human survival, but it also includes the aspirations of our citizens for a life among surroundings which afford tranquility, opportunity for diversity of experience, and the enrichment of human existence.

The Federal Government has the responsibility to provide for the general welfare of the United States. To a very great extent, the future welfare of the United States may depend upon the kind of job this Government does today in managing the environment. In the past, man's impact upon the earth was moderated by his limited capacity to alter nature. With the technological revolution of recent decades, man's capacity to irreparably damage the environment has increased until, today, some of the Nation's most difficult public problems result from our failure to have public policies designed to deal with environmental problems.

The threat of new damage from continued past failures or enlarged future errors is frightening. A simple projection of our record of past failures into the future reveals an intolerable situation. With today's technology, the margins for error and mistake are greatly diminished.

I am not aware of anyone who disagrees that action is necessary if we are to maintain a clean, healthy, safe, and productive environment for present and future generations.

The bills we are considering this morning embody a number of ideas for Federal activities and Federal organizations which would provide basic knowledge and a focal point of concern to insure that future environmental management is enlightened and is capable of the tremendous responsibility it must bear. I believe there is nearly unanimous agreement among us that this kind of approach is needed and perhaps long overdue.

I understand that the President has under active consideration the establishment of an interagency environmental council composed of some of his top executive officers. This indicates that the President and officials in the executive branch share the belief of many of us in Congress that some reorganization is necessary. The President apparently agrees that the existing administrative establishment is inadequate for the task we face, and that a focal point for the environmental considerations of Government should be designated.

My experience in the area of national security leads me to believe that there are serious limitations in an interagency council as a means of administering broad functions of Government. The participants in such groups, if they are at the highest policy level, often do not have the time and energy to provide continuity of effort.

However, I am hopeful that we will have an opportunity to learn more of the President's proposal today. I welcome his interest and his willingness to devote the precious energies of his office and those of his major advisors to this problem. This is a heartening development.

I am hopeful, also, that we will receive constructive advice from the administration witnesses today regarding the bills pending before the committee. The administration has given careful attention and study to the executive organization for dealing with environmental and natural resources administration. I am sure that we can benefit

from the witnesses' suggestions and ideas in our consideration of the legislation before us.

It will be a time-consuming task to formulate a sound national policy for the environment and to make that policy operative throughout the vast Federal establishment. And the hour is already late. We must not be distracted by expedient or partial solutions, we must make strong and effective steps now.

Senator McGovern is ill and is not able to make an opening statement regarding his bill. He will submit one for the record at a later date. Senator Nelson, who is the author of S. 1752, is present and I believe would like to make some comments before we call the first witness, Dr. Lee A. DuBridge, the President's science adviser.

STATEMENT OF HON. GAYLORD NELSON, A U.S. SENATOR FROM THE STATE OF WISCONSIN

Senator NELSON. Thank you, Mr. Chairman. I certainly agree wholeheartedly with the statement just made by the chairman. I think it is necessary to create some kind of council of the nature as suggested by the chairman with the kind of independence that that council would have.

In recent years, distinguished scientists from every discipline have become increasingly alarmed at the accelerating pace of the destruction of our environment. They foresee an environmental catastrophe unless the trend is reversed in the very near future. Increasing millions of thoughtful Americans share their concern. We have seen the powerful forces at work creating one environmental crisis after another. We have witnessed the degradation of our air and water, the destruction of our forests, the desecration of our countryside, the disappearance of our wildlife, and now the threat to humans as well.

It is now entirely conceivable that these forces set in motion by man will prove so powerful and irreversible as to destroy the natural environment we have known in the past, and even to threaten the future of life on this planet.

More than any other public problem with which I am familiar, the threat to our natural environment poses a challenge to our system of self-government. There is a real question as to whether this Nation, which has spent some 200 years developing an intricate system of local, State and Federal Government to deal with the public's problems, will be bold, imaginative, and flexible enough to meet this supreme test.

Let us review for a moment what Government has already done—or at least what it has allowed to be done—to our environment.

In much of the Nation, we destroyed our forests. Then across the Nation, we destroyed our rivers. Our cities and our developing new industries converted many of them into sewers, killing their fish, ruining them as a recreational resource, and threatening the health of those who use them as a water supply.

And I might add all of this was done in the name of progress. And in every instance where I have said that we have to do this in the name of progress. You could substitute, "profits" for the word "progress," and come out with the same result. In any event, we have dangerously degraded our total environment. At the present, we are rapidly destroying all the fresh water lakes of this country. Our small inland

lakes are being ruined by over-development and by septic tanks and pesticides and our mightiest bodies of water such as the Great Lakes are being slowly and steadily destroyed by municipal, industrial, and shipboard wastes.

Pesticides now being used at the rate of 700 million pounds a year, are spreading all across the land and the water, poisoning soil, killing fish and wildlife, and posing a potential threat to human health. Just last month, the U.S. Food and Drug Administration seized 28,500 pounds of frozen coho salmon from Lake Michigan because high pesticide residues had made the fish unsafe for human consumption.

And I don't think there is any question but that every body of water in the world is polluted with pesticides, DDT in particular. Everybody who has studied the question is aware of the fact that DDT has permeated in the atmosphere throughout the world; that DDT is found in the fatty tissue of the penguin in the Antarctic where there has never been any DDT used, that it is found in the fatty tissues of wildlife and marine creatures almost everywhere. And in a study 3 years ago of 400 ocean marine creatures, 396 of them had DDT in their fatty tissue, and that is just one of the very many persistent slow degrading hydrocarbons that we have been introducing into the atmosphere.

Furthermore, we have degraded the air. Our factories, our automobiles, our public incinerators and our homes are filling the air with noxious gases and dangerous particles of pollutants at a terrifying rate.

Now, Mr. Chairman, I would ask that the balance of my statement be included in the record because I know you have other witnesses to be heard from. I simply wanted to read part of it saying that I doubt whether anyone could really adequately describe the disastrous situation that confronts all living creatures, and human beings are just one.

I sometimes wonder if it is the most important one even though we think it is. But the environmental threat to all living creatures on earth is a very serious one, and unless this trend is reversed we will have done damage of catastrophic proportions within the next few years. I understand, as the chairman stated, from reading the papers and talking with my friends within the Federal establishment, that the administration has been contemplating, at least the press so says, the creation of an interagency council composed of cabinet members, like perhaps the National Science Foundation. I join with the chairman of the committee, in saying, if this is correct, which I think it is, I commend the President and the administration and those who have had anything to do with considering this issue, for their concern about the problem. But I would like to say to the chairman that I agree with him that whereas recognition of the problem comes first, how you deal with it, what you do about it, is the real crux of the problem. Quite frankly, without being critical of it, and wanting to pay proper respect to the administration for being concerned enough to consider the problem, I have never in all the 20 years I have been in government seen an effective interagency group really make any hard decision that required some action that raised controversy. If it is a question about agreeing on little interagency things of no consequence then interagency groups may work very well. But if there is a tough problem or a series of tough problems, I think that interagency groups by their very nature are incapacitated to act.

Therefore, I would hope that the administration would look hard at the concept proposed in the legislation before this committee to create a prestigious, independent committee which could do the evaluating of the problem, make recommendations to the Federal and State governments and which could provide an inspired national leadership and have the prestige to secure the enforcement and support of not only the conservation groups in this country, which they would have, but the economic and political groups in this country which are so necessary and important in accomplishing the ends we seek here.

So I would hope that we could agree on some kind of an independent agency such as proposed in this legislation, because the problem is great and the time we have to solve it in my judgment is very short.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nelson. Your full statement will appear in the record.

STATEMENT OF HON. GAYLORD NELSON, A U.S. SENATOR FROM THE STATE OF WISCONSIN

Mr. Chairman, in recent decades, distinguished scientists from every discipline have become increasingly alarmed at the accelerating pace of the destruction of our environment. They foresee environmental catastrophe unless the trend is reversed in the very near future. Increasing millions of thoughtful Americans share their concern. They have seen the powerful forces at work creating one environmental crisis after another. They have witnessed the degradation of our air and water, the destruction of our forests, the desecration of our countryside, the disappearance of our wildlife, and now the threat to humans as well.

It is now entirely conceivable that these forces set in motion by man will prove so powerful and irreversible as to destroy the natural environment we have known in the past, and even to threaten the future of life on this planet.

More than any other public problem with which I am familiar, the threat to our natural environment poses a challenge to our system of self-government. There is a real question as to whether this nation, which has spent some 200 years developing an intricate system of local, state and Federal government to deal with the public's problems, will be bold, imaginative, and flexible enough to meet this supreme test.

Let us review for a moment what government has already done—or at least what it has allowed to be done—to our environment.

In much of the nation, we destroyed our forests. For instance the northland once had 200 billion board feet of white pine, one of the greatest concentrations of wealth anywhere in the world. We wiped it out in an eyewink of history and left behind 50 years of heartbreak and economic ruin.

Then, across the nation, we destroyed our rivers. Our cities and our developing new industries converted many of them into sewers, killing their fish, ruining them as a recreational resource, and threatening the health of those who use them as a water supply.

At present, we are destroying our lakes. Our small inland lakes are being ruined by overdevelopment and by septic tanks, and our mightiest bodies of water such as the Great Lakes are being slowly and steadily destroyed by municipal, industrial and shipboard wastes.

Pesticides, now being used at the rate of 700 million pounds a year, are spreading all across the land and the water, poisoning the soil, killing fish and wildlife, and posing a potential threat to human health. Just last month, the U.S. Food and Drug Administration seized 28,150 pounds of frozen Coho Salmon from Lake Michigan because high pesticide residues had made the fish unsafe for human consumption.

And now the very air we breathe. Our factories, our automobiles, our public incinerators and our homes are filling the air with noxious gases and dangerous particles of pollutants at a terrifying rate.

Thousands of deaths have officially been traced to air pollution, and many thousands more were almost certainly caused by it. And much more than our

health is at stake. Just recently, for instance, air pollution was cited as the cause of at least two major air collisions in this country in the past few years.

This has been a decade of precedent-setting action to attempt to meet these environmental and human disasters—a decade of increased commitments to clean up our air and water, to set aside new park lands and open space, to protect wilderness, to develop a unified approach to understanding and managing our environment for our own sake as well as for the future of our resources.

We have been building toward a national policy on the environment, which would recognize that government is not a referee between interests competing for our natural resources, but a trustee of environmental quality for all the people.

Such a policy, however, is as yet far from reality. Nuclear power plants are being installed across the country without, in many instances, protections which will minimize the impact of thermal heating and prevent our waters from being used as one vast heat sink. These plants are federally-licensed.

The California coastline was blackened early this year by a massive oil leakage which might well have been prevented by effective regulations or by a ban on oil drilling in that hazardous area—if government agencies had acted.

The future of not only Coho Salmon and other Great Lakes fish but of all marine creatures and other wildlife is now in grave danger from high pesticide concentrations—a development which might well have been prevented had government agencies earlier recognized the threat of persistent, toxic pesticides such as DDT, and acted accordingly.

Too often, in fact, our public policies have simply seconded the philosophy that under the guise of "progress" and profit, anything goes.

Such policies are rooted in the very bigness and complexity of our government, where one hand doesn't know what the other is doing, or can't find out, or where the public concern and intent sometimes finds it difficult to make its way through the gigantic maze of bureaus and agencies.

If a national policy is to become more deed than rhetoric, we must meet the challenge of making government work for, rather than against, the very goals we set.

The legislation now before this committee contains a number of provisions which would represent a significant step in that direction.

For instance, the proposals to create a Presidential Council on Environmental Quality, or a similar council, would put at the highest level of government a responsibility for developing a long range view of the nation's environmental concerns and problems.

Under the proposals, the council would be composed of outstanding environmental specialists appointed by the President with the advice and consent of the Senate. The Council would be charged with developing comprehensive national policies and programs to improve and maintain the quality of our environment, would appraise the many federal programs which have an effect on the environment, and would prepare each year for the President a report with the council's findings and recommendations.

It is highly important, I believe, that the Council be established at this high level of government. Only in this way can it effectively assist the President in providing leadership for the nation in meeting our environmental problems and needs.

There has been suggested the alternative of creating an interdepartmental council, composed of cabinet officers, to achieve similar ends, and it is reported that the present Administration will propose exactly this approach.

I believe such a council would be doomed to failure.

For one thing, there is very little in the history of such councils that has provided an encouraging experience. Too often, responsibility is delegated by a cabinet member to a department official, and thereafter, there is only limited involvement on the part of the Secretary.

Further, what we typically have seen in interdepartmental councils, is a striving for the lowest common denominator of consensus, a predictable result when we see each department trying to protect its own point of view.

Consensus and the limited attention of departments and secretaries concerned with a whole range of other responsibilities will not do.

The fact is, we long ago recognized the necessity of assigning experts at the highest level to devote their full-time attention to the nation's economic concerns, by establishing the Council of Economic Advisors. I believe it is clear that environmental matters urgently require the same high level, full-time

attention. The time has come to declare that Gross National Product is not alone an adequate measure of "progress."

Further, with a Presidential Council, the President will be able to tap the resources of all the federal departments and initiate the necessary research and environmental considerations throughout the executive branch that will formulate and carry out a national policy on the environment.

Finally, only with an independent Council that holds the respect of the political and scientific community of this nation will the President achieve the overview and foresight to deal adequately with this critically important issue.

In retrospect, such a council would have anticipated the need to protect the nation against the environmental impact of nuclear power generating plants, an issue that has been understood and debated for several years without results because no one body in the government had been given the responsibility to focus attention and take action.

A Presidential Council could have foreseen the dangers of oil exploitation on the Continental Shelf and made recommendations whose adoption would have prevented the Santa Barbara oil blowout.

Such a Council would have recognized long ago that federal regulations and research with regard to dangers from toxic, persistent pesticides were inadequate and urgently in need of updating, something scientists have been saying for years.

Secondly, proposals before the committee would give the President the responsibility of making regular reports to the Congress on the condition of our environment, on its effects on the social, economic, and other requirements of the nation, and with the President's recommendations on the implementation of a national policy on the environment.

The annual report would be an important measuring stick, and would also provide a focus for our future needs.

Next, there are proposals to create an environmental overview mechanism in Congress as well. My bill, S. 1752, proposes the method of creating a Joint Congressional Committee on Environmental Quality, which would provide Congress with a new tool to conduct a broad-ranging and continuing program of assessment and recommendation on environmental concerns.

The committee would, for instance, make a comprehensive study of the President's annual report on the environment and report its finding to the appropriate committees of Congress. The committee would not have authority to receive or report legislative measures.

I believe such a committee would be an important aid to Congress in translating into effective action the increasing nationwide concern on the part of millions of citizens over our degraded environment.

Finally, S. 1752 and S. 1085 give the Secretary of the Interior new responsibilities and authorities to carry on urgently needed scientific research to increase our understanding on the delicate balance of ecological systems in nature, and of man's impact on this balance.

The Secretary would be authorized as well to establish a clearinghouse for information on ecological problems and studies, to disseminate information about progress in the field and to establish a program in which representative natural environments on federal lands can be set aside for scientific study and for preservation.

In spite of the great and increasing body of knowledge and the sophisticated technology which man has developed, we are still woefully short of an understanding of our relationship to this planet.

In conclusion, let me say that I am heartened by the increasing interest and commitment on the part of Congress in protecting and restoring the quality of the environment. With passage of legislation to establish a Presidential Council on Environmental Quality, and a Joint Congressional Committee on Environmental Quality, and to get underway a large scale scientific investigation of our relation to our environment, we will be striking out in the direction that is necessary to truly establish a national policy on the environment.

The CHAIRMAN. Are there any comments from other committee members?

Senator ALLOTT. May I make just a comment?

The CHAIRMAN. Yes, Senator Allott.

STATEMENT OF HON. GORDON ALLOTT, A U.S. SENATOR FROM THE STATE OF COLORADO

Senator ALLOTT. Mr. Chairman, I agree with the concern about the environmental situation, and I think I am as aware of it as any of my colleagues, and I am not wedded, I want to say this frankly, to any particular method of getting at the problem.

I note the Senator from Wisconsin's remarks about the best way to do it. I express my concern and have expressed my concern in this committee many times during the past few years about the creation of agencies composed of people who had many, many responsibilities and I think whether you have a council or whether you have such an agency, the real problem is to get people to devote time to it. During the past years this point of view has not received very much consideration, but I do want to say that I approach this thing with an entirely open mind. We need the best minds we can get on it and we need people who can devote some time to the subject. I hope that we can make progress in this committee, and after we have heard the statements of the Under Secretary of Interior and the Secretary of Interior and others, why we hopefully can arrive at a conclusion.

The CHAIRMAN. Thank you, Senator Allott.

Congressman Daddario was unable to attend today's hearing but he has sent a statement over to be placed in the record. Congressman Daddario was instrumental in convening the joint House-Senate colloquium to discuss a national policy for the environment last July.

(The statement referred to follows:)

STATEMENT OF HON. EMILIO Q. DADDARIO, A U.S. REPRESENTATIVE IN CONGRESS FROM THE STATE OF CONNECTICUT

I am pleased to submit my views on the important subject of environmental policy and its continuing development as evidenced by these hearings. Valuable contributions were made by Senator Jackson and other leaders of both Houses to the Joint-House Senate Colloquium on a National Policy for the Environment last July. Those proceedings clearly show that the Congress is determined to reconcile the conflicts of use for environmental values—the crux of the policy problem.

Environmental quality is beginning to receive the proper emphasis and weight in decision making. Means of measurement are still inadequate, but industries, municipalities, regional agencies, and individual citizens are recognizing responsibilities for going beyond obvious economics in balancing costs and benefits.

It is useful to consider this issue in three dimensions: policy, organization, and action programs.

The development of a national policy as a guide for actions at all levels is paramount. The precise words are not important but the elements of policy which are identified in the report based on the Colloquium seem to me to be worth repeating.

It is the policy of the United States that:

Environmental quality and productivity shall be considered in a worldwide context, extending in time from the present to the long-term future.

Purposeful, intelligent management to recognize and accommodate the conflicting uses of the environment shall be a national responsibility.

Information required for systematic management shall be provided in a complete and timely manner.

Education shall develop a basis of individual citizen understanding and appreciation of environmental relationships and participation in decision-making on these issues.

Science and technology shall provide management with increased options and capabilities for enhanced productivity and constructive use of the environment.

As leaders of all branches of government and the private sector refine and express these key ideas, a national ethic for maintaining environmental quality along with productivity will evolve. This ethic—a sense of the right thing to do—is essential because the short term, localized, dollar gain will always be more tempting than the long term, subtle values.

Organization is important in both the Legislative and Executive branches because environmental matters cross the traditional lines of authority of departments, agencies, and committees. The evidence and testimony of these hearings regarding the coordination, planning, and priorities functions in the Executive branch will be most helpful. I will confine my remarks to the point that, regardless of what is accomplished downtown, Capitol Hill must improve its organizational approach.

One important capability for the Congress is to gather information for decision which is timely, and interpreted for the legislative process. We must assure ourselves that the hard questions are asked of those who promote technological change and progress as well as those who warn of unwanted consequences. Adequate assessment of man-produced changes in the environment will aid all Congressional Committees when these issues come under their jurisdictions.

I have previously proposed a Technology Assessment Board, reporting to the Congress, as a means for assisting and improving the legislative decisions of all Committees. Environmental effects would be a principal concern of such a Technology Assessment Board. Since 1967, our Subcommittee on Science, Research, and Development has studied the TAB concept, to receive advice on its scope and functions, and to perfect a plan for its implementation in legislation.

There is strong support for placing this capability under the Congress. Some of the important reasons are:

1. Questions of concern to the Congress must be assessed to meet the legislative schedule, i.e., before decisions are made.
2. The Congress must be in a position to continuously challenge the Executive branch as to the consequences of its programs.
3. It is important that assessment proceed in an open forum stimulating wide public discussion. The Congress can provide such an environment.
4. The widest possible base of information and opinion must be accessible to assessment projects and the Congress could command this knowledge.
5. The Congress would be more attentive to assessment results if they were presented via a Congressionally chartered organization.
6. The Congress must be convinced that the experts have asked one another the right questions.
7. The political decisions affecting the future of technology rest with the Congress.
8. The Congress is sensitive and rapidly responsive to the people and is immediately accountable to the electorate.
9. The feeling that applied science is under control (through Congressionally monitored assessments) will restore public confidence necessary to a risk-taking progressive society.
10. The needs of the Congress for assessment results would assure that the necessary funds for these activities would be provided.

It seems to me that with the information and analytical resources of a Technology Assessment Board for the Congress, environmental management by the Executive branch would be continually challenged to a high level of performance. Programs and reports generated by coordinating and planning agencies would have a logical point of reception and digestion in the Legislative branch. Without extensive reorganization (which will never come easily or rapidly in the Congress) each Committee could use the services of the TAB and draw upon a common bank of high quality information. A strong emphasis on the advantage of and necessity for early warning is implied in my concept of the TAB.

Finally, action programs will begin to conform to policy and organizational changes. The complexities of ecological relationships mean that few, if any, manipulations of the environment can be taken independently. Federal programs intersect private and local government plans. A systems approach is indicated but the day-to-day activities of a technology-based economy cannot be disrupted or abruptly redirected. Again, in my view, the solution is an increased knowledge of ecology and increased technological options for managing the environment.

The International Biological Program must be strongly supported. The data from its constituent projects are directly applicable to our most pressing en-

vironmental problems—pollution, food production and population. The trained manpower resulting from the IBP studies are needed by industry and government. A resolution of Congressional support has been introduced this session in both Houses. The IBP is actually just the start of a sustained and intensive scientific study to improve our basis for political and administrative judgments in environmental affairs. It will enable action programs to be carried out in harmony with ecological principles.

Thus, I believe these hearings mark another milestone in the development of a Federal position to assure environmental quality. The participation of Representatives and Senators from specialized committees in these overview proceedings demonstrates that the Congress is continuing its leadership role in policy, organization, and action programs.

The CHAIRMAN. The committee has received statements from Congressman Reuss of Wisconsin and Congressman Bennett of Florida, for inclusion in the hearing record. Without objection they will be included at this point.

(The statements referred to follow:)

STATEMENT OF HON. HENRY S. REUSS, A U.S. REPRESENTATIVE IN CONGRESS FROM
THE STATE OF WISCONSIN

The Council on Environmental Quality which S. 1075 would set up could do much to alleviate the serious lack of policy review, oversight, and effective coordination which now impedes our conservation effort.

Our right hand literally does not know what our left hand is doing. Experts there are aplenty. But there is no one to bring together the thinking of the forest experts, the wildlife experts, the soil experts, the water and wetland experts, the air pollution experts, the population experts.

The executive branch alone includes a seemingly infinite number of departments, bureaus, offices, councils, and administrations which lay claim to some aspect of our conservation program.

Federal agencies work at cross purposes. While the Department of Agriculture pays farmers to drain their wetlands, the Department of Interior pays farmers to reflood their wetlands.

Too often reports are written calling our attention to an unobserved crisis, and then gather dust on the shelves because no one follows through—as with the alarming report on the Nation's forests 7 years ago.

Too often a myriad of officials work on the same conservation problem—with no one doing the coordinating.

Too often our regions wither and die because we pay insufficient attention to their ecology and their economy—as with the gutted coal mines of Appalachia, the cutover forests of the northern Great Lakes area, the overcultivated Dust Bowl of the Great Plains.

Congress, not to be outdone, has distributed its share of the environmental effort among its Committees on Interior, Agriculture, Science and Astronautics, Commerce, Government Operations, Defense, and Public Works.

The problem of fragmentation is not confined to conservation and environmental studies. There used to be similar diffusion and lack of planning in the fields of economics and atomic energy.

Then, a generation ago, Congress set up the three-man Council of Economic Advisers and the five-man Atomic Energy Commission. Like their congressional counterparts—the Joint Committees on Economics and Atomic Energy—the groups serve the essential function of pulling together total effort in their fields.

The problems we face in organizing our environmental quality effort today are very similar to those we confronted 20 years ago in determining the responsibilities for the development and control of the economy and of atomic energy.

If we are going to make progress in improving the quality of our environment, we must unify our total effort. We must set up a permanent mechanism to study and plan and guide us in our approach to our resources of soil, water, air, wildlife, forests, and open space.

The Council on Environmental Quality could serve as such a mechanism. However, I would make two suggestions.

The first is that it might be wise to make the Council somewhat more independent of the President. In S. 1075, the Council members serve at the pleasure of the President. It is my feeling, however, that there might be times in which

the members of the Council should be insulated from Presidential pressure so they can speak up if they feel they must—if, for example, they believe the President is not following through on the fight against water pollution. I would suggest, therefore, that the Council members be given a fixed term. I have introduced H.R. 3114, a bill similar to S. 1075, which establishes a Council of Conservation Advisers whose members are appointed for staggered 6-year terms.

My second suggestion is that there should be some effort to pull together the presently fragmented conservation effort in the Congress. As I indicated earlier, there are some six or seven committees in both the Senate and the House that deal with different aspects of conservation and the environment.

The coordinating mechanism could be a Joint Senate-House Conservation Committee, modeled after the Joint Economic Committee. It would be composed of leading conservationists in the Congress, eight from each body. It would review the annual environmental quality report submitted to Congress under S. 1075, and recommend to the appropriate legislative committees of the House and Senate necessary action to achieve environmental goals. As you might suspect, my bill also contains a provision for a Joint Conservation Committee.

I thank the Committee for this opportunity to present my views, which parallel in many respects those of the Committee's distinguished Chairman.

STATEMENT OF HON. CHARLES E. BENNETT, A U.S. REPRESENTATIVE IN CONGRESS
FROM THE STATE OF FLORIDA

Mr. Chairman, I appreciate the opportunity to present a statement to your Committee, considering legislation to authorize the Secretary of the Interior to conduct a survey of our natural environment which will lead to a more beautiful and enjoyable place in which to live.

I have a bill, H.R. 952, pending in the House Committee on Interior and Insular Affairs, which is similar to that legislation before your Committee. I endorse in principle the thrust of the legislation and I congratulate the Chairman and members of the Committee who are supporting this type of legislation.

Today our Nation faces a great problem which occupies much headline and radio and television time—the population explosion. The challenge confronting us is an expanding population in a static area. People are taking up all the space and what is left of our open areas, particularly the naturally attractive areas. What we need today is planning for this dilemma of too many people in not enough space. I like what Don Marquis wrote: "If the world were not so full of people, and most of them did not have to work so hard, there would be more time for them to get out and lie on the grass, and there would be more grass for them to lie on."

What we are considering today is where the grass is, and can we save some for our future generations to lie on. In order to do this we need planning. The legislation before the Committee today would give the Secretary of the Interior the authority to make an extensive survey to see what is left of our natural environment and if there is some way of keeping plants and animals around for our children to enjoy.

I have lived in Florida for over 50 years and in my state we have a prime example of what can happen if wide areas of outdoors are not protected by public spirited people or the local, State, or Federal Governments. In Florida, ninth largest State in the Nation and the fastest growing large state in the country percentage-wise, all lands not protected by conservation-minded people are destined to become fifty-foot lots. In the last decade Florida has grown in population by 55 percent, and, of course, our land area has remained the same. There are not many wide open, interesting outdoor spots left in my State, and that is the important reason why I have been a prime sponsor of the Wilderness Preservation Act and the Land and Water Conservation Act, the landmark conservation bills passed in the 88th Congress, and earlier legislation like the Key Deer Refuge. In the 90th Congress the Scenic Rivers and National Trails System legislation were enacted into law. Two important projects in our home state of Florida were included in these measures.

The Suwannee River was put in a study category in the Scenic Rivers Bill and the San Mateo-St. Augustine Road, the first road in America, was put in a study category in the National Trails Systems Bill. I was very pleased to support and sponsor the Suwannee River and the San Mateo-St. Augustine provisions in the House of Representatives. In recent years the Congress has done an outstanding job in the field of conservation. Since 1963, 278 conservation measures with

over \$12 billion in appropriations have been approved. Some 14 million acres in 33 national parks have been set aside by Congress since the Yellowstone National Park in Wyoming, Montana, and Idaho was established as the first national park in 1872. We have also made progress in the field of air and water pollution and will strengthen these bills in this and future Congresses I believe.

I have seen our beautiful outdoor areas dwindle and turned into asphalt highways and acres of shopping centers. These things are necessary to take care of our expanding population, but the planning and the thought behind them has been dreadful.

Vice Admiral H. G. Rickover (U.S. Navy) has outlined our responsibility in this: ". . . government has as much a duty to protect the land, the air, the water, the natural environment of man against such (technological) damage as it has to protect the country against foreign enemies and the individual against criminals * * *"

Most of the open land in our country today is where the people aren't. We have an obligation to protect what plant and animal life and natural environment we have left in this country. We can do that by adopting this legislation, which will document and define changes in the natural environment, maintain an inventory of projects and developments in our land, and establish a system of collecting and receiving information and data on ecological research. When we have started this survey we will have taken a giant step forward to preserve for generations to come what is left of our outdoors.

The CHAIRMAN. The Chair would like to suggest that all the Government witnesses come to the table together. I think this would be more appropriate than appearing individually. Dr. Lee DuBridge, who is the President's Science Adviser; Secretary of Interior Walter J. Hickel; the Assistant Secretary for Urban Systems and Environment, Department of Transportation, Mr. Braman; and Under Secretary Train, of the Department of the Interior.

The Chair would like to suggest that Dr. Lee DuBridge make the opening statement. Then we will call on Secretary Hickel, and then Assistant Secretary for Urban Systems and Environment, Mr. Braman. Secretary Train, did you wish to follow Secretary Hickel?

Mr. TRAIN. I do not have a prepared statement, sir.

The CHAIRMAN. All right, fine. We will do it in that order and then we can ask questions of the various witnesses. I think this will facilitate the presentation of the administration's position.

We are very honored to have Dr. Lee DuBridge, a distinguished educator and distinguished scientists, with us. I want to commend you, Dr. DuBridge, for the leadership you have taken in connection with the pending matter, and I want to commend the President, too, for his interest. I think there is a general consensus that something obviously needs to be done in this area. My own view is that one of the key problems will be the restructuring of government to try to cope with environmental problems. Like science, the environment is a concern of every department of government, and environmental problems are found in every department of the government. There is, I believe, a very real need for a strong declaration of congressional policy on the environment so that the executive branch will know its charter and can have a stronger arm.

I want to say, speaking only for myself as chairman, that I have an open mind about the form and nature of the policy. I certainly welcome an exchange of views this morning. I am not set in concrete, and I trust the executive branch is not. I would hope that out of these hearings we can come to some kind of agreement on how to proceed. We are delighted to have you with us. I understand you have some informal comments which you may wish to supplement later, and you

may do so, and that is true of all the witnesses. We are not trying to be technical here this morning. We just want to get as much information as we can before the committee so that we can make some sensible legislative decisions, Dr. DuBridge.

STATEMENT OF DR. LEE A. DuBRIDGE, PRESIDENT'S SCIENCE ADVISER

Dr. DuBRIDGE. Thank you, Mr. Chairman, members of the committee.

The present administration is delighted with the interest of this committee and with the Congress generally in this environmental problem. The statement you read from Professor Caldwell, Mr. Chairman, certainly pinpoints the problem very clearly, and Senator Nelson's remarks are in the same flavor.

I think we have all realized that the problem of our environment in a very difficult one. The trouble is that it is hard to define exactly what environment means, because everything we live with is of course our environment, everything outside of our own bodies is our environment, whether it is this beautiful room, this beautiful building, the streets we walk on, the hikes we take in the woods, the automobiles we ride in, the air we breathe, the water we fish in and drink; everything is environment, and to improve everything in our environment is obviously, therefore, a very difficult task.

There is also an overriding fact of life that we must remember, that ever since man appeared on this earth he has been an agent for deteriorating the environment in one way or another by virtue of the very fact that he has to live and eat and keep warm, he does something to his environment. If he grows his crops, he must cut down trees to make room for his fields. As he plows his fields, he makes more easy the erosion of the dirt, the soil in those fields through wind and water. As he deposits fertilizer on his fields, he runs the danger of contaminating the water supplies which irrigate his fields and run off into the rivers.

As industrial man has developed in the last century, his interference with the environment, of course, has accelerated. As man has produced enormous quantities of material for his own comfort and health and welfare, he has also produced more waste products.

It is inevitable when you generate power, for example, that you must generate heat. This is a law of physics and is as inevitable as any other law of physics. Therefore, every power station that is built in this country—no matter what the source of fuel, fossil fuel or nuclear fuel—produces waste heat, and this can only be disposed of in the air or in some body of water, and therefore thermal pollution becomes an inevitable accompaniment of power generation. Every time we burn any fuel whatsoever, particularly coal and oil, we are producing compounds that go into the atmosphere, some of which are relatively harmless, like water vapor, some are only moderately of concern, like carbon dioxide; others have more serious concern like carbon monoxide, various unburned hydrocarbon products and other things like sulphur dioxides which will contaminate the atmosphere. As we accumulate a great industrial production system, we purchase as citizens the products of this industrial system, whether they be in automobiles or toasters or loaves of bread, and inevitably the things we purchase

eventually get converted into waste products of one sort or another. We buy a car and drive it for 10 years and it is a pile of junk. There is no way of avoiding the fact that a car will eventually become a pile of junk. The question is what to do with this junk.

There is no way of avoiding the fact that everything we do in an industrial society produces waste products.

The question is two-fold: first, how do we dispose of the waste in bulk, the large volume of waste products that we inevitably produce from not returnable bottles to beer cans to junk automobiles, how is this enormous amount of solid waste to be disposed of in order to produce the least impact on the environment?

Second, in what ways can this waste be treated so that it is least harmful, so that any bacterial products which will cause disease will be removed from the waste before it is discharged into the air or in the water, and how can any nonbacterial but still poisonous or harmful product such as sulphur dioxides, for example, be eliminated from the waste before, again, it is discharged into the air or into the water?

Therefore, we are dealing with an inevitable problem of waste disposal, and trying to find a way to dispose of waste, purify it, delete these poisonous products and then dispose of what remains in the most economical and the most practical way and in the way most conducive to keeping our environment beautiful.

It is not only the waste products, of course, that we are to deal with. There are all of the other activities that man engages in from mining for coal and oil and gold and copper and all of the other minerals that are essential to our life or to our industrial civilization. Not always do mining operations produce very beautiful environmental conditions. We cannot simply prohibit all mining and drilling for oil, thereby destroying our economic system. We can, however, examine more carefully how these operations shall be conducted in ways to produce the minimum possible impact on the environment. There is, unfortunately, always a matter of economics involved. I like to give a good illustration of this from my own former city of Los Angeles where, of course, the air pollution caused by the automobiles has been a serious problem for many years. Because the unburned gasoline from the automobile exhaust, when under the action of sunlight, combines with oxygen and nitrogen in the atmosphere, it produces certain products in the atmosphere that are very distasteful and possibly even harmful to health.

There is a very simple way in which to eliminate the smog problem in Los Angeles and passing a single law would do it—a law prohibiting forever the sale of gasoline. You can immediately recognize that this might have some interesting effects on the city of Los Angeles or any other city, if all vehicular traffic powered by gasoline were suddenly prohibited.

However, an even simpler law is available. This is to attach muffler control devices to automobiles to reduce the hydrocarbons. A few years ago such a device was developed by a company, presented to the State Air Pollution Control Board, examined, approved as effective, but it was rejected as a thing to be required on automobiles because it cost \$150 a car to install. If it had cost \$75 a car, the State said they would have required it.

Therefore, the elimination of smog is worth \$75 per automobile but not \$150, according to that particular body.

But this is only a very simple illustration of the fact that there are economic problems affecting our welfare, our economy whenever we try to improve the environmental situation. Even the pesticide problem.

Pesticides have saved millions and millions of dollars of crops around the world, have saved from hunger millions of people by preventing the destruction of crops by insects, has helped to wipe out certain kinds of communicable diseases that are carried by mosquitoes, flies, and other insects. And so without pesticides our health and our welfare would have been substantially less than it is today. But they also have these other effects which have been mentioned which are very real, and this means that just abolishing all pesticides will give us economic and health results that would be intolerable, and then it is a problem not of abolishing but of managing the use of pesticides and of avoiding them contaminating the air and the rivers and the seas in the maximum way possible.

Well, I mention these things, Mr. Chairman, only to indicate that this is not a simple problem and that it will require great efforts on the part of Government, private industry, State and local authorities all up and down the line if we are to cope with this enormous problem.

I do not wish to suggest that the enormity of it makes me discouraged, because, far from it, I believe it only gives us opportunities to tackle areas of this problem which can be tackled where the present technology and knowledge exists and where we need to implement what is now known by suitable government and private actions.

Now, as has already been stated by the Chairman, the President has been interested in this problem since even before the inauguration, and in one of my first meetings with him immediately after January 20 he asked me to take a look at the question of how we could best create a top level council to study environmental problems and to see by consulting with Cabinet agencies and with the heads of independent agencies and with various staff people what would be the mechanism for having a very strong and influential agency to supervise, to coordinate and to effectuate the progress that he wished to make in this Administration toward moving toward a solution of some of these problems which we have been talking about.

Now, in setting up an agency as has been suggested there are several difficult problems to be treated. It is, of course, difficult for Cabinet people to find the time to devote to all the responsibilities which come under their jurisdiction. It is difficult for the President to find enough time to give to all of the things that he has in mind. It is difficult for these individuals to be authorities on the very complex technical, scientific, political, legal, and economic problems that are involved. However, the President felt that the prime consideration involved in getting things done was to select those people that had the authority to do it, and to charge them with carrying out through their respective agencies and departments the tasks which are agreed on that need to be done.

Therefore, the President proposed the creation of a small council at Cabinet level of which he himself would be Chairman, which would consist only of a few Cabinet members plus the Vice President and which would be staffed by an adequate group of experts who would have contacts throughout the Government with all of the agencies that

are concerned with this problem, would have contacts with their staff people, their subcabinet and Cabinet level people and would try to coordinate, study, and bring together to the proposed council proposals for action, and where in the council meetings the President after thorough discussion can direct the cabinet officers present who have the authority within the field to proceed with the actions which have been recommended or to work together in the ways which have been decided upon.

Now, during the past few months I have seen this mechanism work in the Council of Urban Affairs, which also the President established after the inauguration. This Council, too, is composed of Cabinet members with the President as the active, and I assure you, a very vigorous and interested Chairman, with the Vice President occasionally in the chair, only once to my knowledge since the inauguration, but the Vice President and President are available to serve as Vice Chairman and Chairman with the cabinet officers of the various relevant departments in the urban affairs area together with the pertinent staff people of the White House headed by Pat Moynihan. This I have seen work very effectively because tasks can be assigned then and there in the meeting to the proper Cabinet officer or on a group or Committee of Cabinet officers and the things decided upon can be implemented instantly by Presidential directive on the spot.

This, therefore, is very different from a subcabinet level interagency coordinating committee in which individuals without authority, but maybe with great knowledge, get together to discuss the problems but individually have no authority to implement the solution, and therefore, it must inevitably go to a higher level. If we start at the top level, then we can set up the mechanisms below the top level in which staff and subcabinet and independent agency people will work together but knowing that the authority of the Secretaries or heads of their agencies are involved and held responsible by the President.

Therefore, the President has developed a plan in which a fairly small cabinet level Committee is to be established under his leadership and his Chairman, that there will be mechanisms provided for and which all other agencies and departments of government not involved in this Committee will be brought in as observers or participants in one way or another, that there be provided staff assistance across the government but with the Office of Science and Technology serving as a headquarters for staff help that will be required from all agencies of Government that are concerned in this problem.

Well, this, Mr. Chairman, is the idea behind the President's proposals for trying to make energetic, authoritative and effective moves for precisely the objectives that you have outlined and which we all subscribe to. But we welcome very much your interest in this problem and your suggestion about how still further strength and effectiveness can be given to the administrative actions that we hope will be taking place in this field.

Thank you very much.

The CHAIRMAN. Thank you, Dr. DuBridge. That is a very fine extemporaneous presentation. I want to—

Dr. DUBRIDGE. Extemporaneous?

The CHAIRMAN. Well, I didn't think you were reading very much—prepared and extemporaneous. You were obviously prepared because your extemporaneous remarks were as if read.

We are delighted to welcome the Secretary of Interior here this morning. I want to assure the Secretary that today's hearing will not last as long, and I do not think there will be as many questions as we had at your confirmation. We do want to extend a warm welcome to you, Mr. Secretary, and you may proceed now in your own way.

STATEMENT OF HON. WALTER J. HICKEL, SECRETARY OF THE INTERIOR; ACCOMPANIED BY RUSSELL TRAIN, UNDER SECRETARY OF THE INTERIOR

Mr. HICKEL. Thank you, Mr. Chairman, members of the committee. Likewise, I want to thank all those for the fine statement and yours, Dr. DuBridge. And I likewise am glad to make my second appearance here and hope that it does not last quite as long. I know it will be just as fruitful and just as interesting.

More and more the public, government, and industry are placing greater emphasis on environmental needs in carrying out programs and projects which affect the environment—whether these involve regional planning, pollution, fish and wildlife, education, or population, among others. Indeed, within the Department of the Interior we are constantly endeavoring to bring to bear more knowledge and understanding of the impact which our activities have on the quality of the human environment. We endorse without hesitation the principle of bringing environmental criteria more effectively into the decision-making process of the Federal Government.

We know that every modification, sometimes beneficial, often adverse, and too often unforeseen. Natural systems and functions are altered with potentially serious effects on the biological health of the environment. Man, indeed, does possess today the power to destroy himself.

None of this is to say that we should not undertake actions which modify the environment. We must, however, provide methods to understand and predict the results and implications of our actions. Such knowledge is essential to intelligent planning, to the setting of guidelines for the future.

The President, as you have just heard, has announced his intention to establish a new Environmental Quality Council. While the details of the Council's role have not yet been announced, its broad mandate can be expected to reach out into every Federal activity and require that such activity take adequate account of environmental effects. For the first time this Government has a means for developing and coordinating a comprehensive Federal effort directed to meeting environmental problems.

It is our belief that the proposed new Environmental Quality Council makes unnecessary the kind of Council proposed in S. 1075. The new Council will constitute an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, I am confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

S. 1075, as well as other bills before the committee, authorizes the Department of the Interior to conduct a variety of ecological studies and activities. The Department would, of course, welcome an expanded

capability in this area. However, to be effective, the very broad authority contained in the bill would have to be supported by substantial additional staff and funding.

The bills in question would make the Department of the Interior the focal point for ecological investigation and reporting within the Federal Government. Yet there are a number of Federal agencies with important environmental responsibilities. The bills leave entirely unclear the manner in which Interior would exercise its ecological functions in relation to the responsibilities of these other agencies. We believe that the new Environmental Quality Council proposed by the President will be especially well suited to developing better coordination and clearer designations of environmental responsibility among the many agencies involved. It is our recommendation that legislation such as that contained in title I of S. 1075 not be enacted until the new council has had full opportunity to address itself to this need.

Mr. Chairman, I mentioned earlier in this statement the concern of the Department of the Interior that environmental values be built more effectively into the decisionmaking process. I wish to take this opportunity to announce one important new effort along these lines.

In August 1968, oil reserves of 5 to 10 billion barrels were discovered at Prudhoe Bay in Alaska. The petroleum industry has predicted that reserves totaling 100 to 300 billion barrels will be found in Alaska and the Canadian Arctic. In comparison, over the last 110 years, only 118 billion barrels of oil have been discovered in the entire North American continent.

This discovery poses a great challenge to this country's ability to capture this needed resource while at the same time protecting to the greatest extent possible the fragile Arctic environment from the processes of exploitation. The Arctic environment, particularly the tundra, does not have the resiliency to withstand unplanned development. It has a very limited capacity to recover from environmental damage. Track vehicles leave scars that last for years.

Construction projects, such as large pipelines, if improperly planned and constructed can disrupt completely the migratory cycle of major animal populations, such as that of the caribou. The uncontrolled taking of gravel, already a scarce commodity in the Arctic, from streambeds for road construction, airstrips, camps, pipelines, and other facilities, can destroy the spawning beds for salmon and char which provide an important food supply for native Alaskans. It can also lead to siltation and stream pollution.

The extremely cold, dry climate aggravates and preserves man-made pollution. Careful planning and strict regulation are essential in the management of solid wastes.

The most important single problem concerns transportation facilities. The frigid climate and attendant ice fog restrict air travel and require the use of surface transportation. If private interests are free to locate roads, air strips, and pipelines wherever they desire, the North Country will be ruined. Such facilities must be planned with care. Their location should be fixed, their numbers limited.

There is little doubt that a major ecological research project for this area is required. Man-made disturbances can easily damage, often

permanently, the natural functioning of the tundra ecosystem. We need far more knowledge of these effects than we presently possess.

We often consider much of this North Country a preserved wilderness, but in fact much of it is in jeopardy. Already over significant areas of the North Country wilderness values have vanished forever. We must identify now those areas where development should be limited in the future, and we must identify those areas that should remain as wilderness. The rapid construction of surface transportation systems following oil discoveries do not permit us to delay this task.

I have touched on only a small portion of the problems created by the extensive development that is sure to take place within the near future. The discovered reserves of oil are immense and are of great significance in assisting this Nation to meet its fuel and energy requirements for the future.

Development is proceeding at a rapid rate. We cannot expect the petroleum industry to sit back and wait. We in the Federal Government have an obligation as owner and trustee of the public lands to insist that this development give the maximum possible protection to environmental values.

I am, therefore, appointing today a Departmental Task Force whose immediate responsibility will be to recommend guidelines for development of the North Slope. Among the matters which the Task Force will be considering are the strengthening of our own Department's regulations. We cannot rely fully on voluntary compliance and, as trustees of the public domain, we must be able to provide surveillance of development operations on the ground.

At the same time, we wish to enlist the cooperation of the petroleum industry, and will be seeking industry representatives to work closely with our Task Force.

We will be working closely with the government of the State of Alaska. Finally, I will seek the participation of other agencies of the Federal Government, particularly the Department of Transportation, in this effort.

The group which I am appointing today is made up of the Under Secretary, The Directors of the Bureaus of Sport Fisheries and Wildlife, Commercial Fisheries, Land Management, Geological Survey, the Administrator of the Federal Water Pollution Control Administration, the Commissioner of Indian Affairs, and the Science Advisor to the Secretary.

Development of our natural resources as commodities must protect other resource values. I am convinced that conservation and development are compatible. They should go hand in hand. To accomplish this goal, we must build environmental values into the development process from the beginning. It is essential that Government take the lead. We have no more urgent task. The North Slope development presents a major opportunity and challenge.

There are other challenges to which we must address ourselves, such as the Everglades National Park and the whole development pattern of southern Florida as it affects its future.

In closing, Mr. Chairman, I have mentioned but a few, but I congratulate this committee for its interest and concern for the environmental needs of the Nation.

The CHAIRMAN. Thank you, Secretary Hickel, for that statement. I especially want to commend you for your comments and recommend

proposals regarding the development of the North Slope in Alaska. I think the task force concept is timely and I think very, very important in dealing with the environmental problems we face in the Arctic area of Alaska.

The Chair is delighted to welcome to the committee Mayor Braman, who served with honor and distinction as mayor of the city of Seattle, and who was sworn in yesterday as Assistant Secretary for Urban Systems and Environment, Department of Transportation. He was delayed in assuming this position because he had a little skiing accident in the Cascades. We have a very vigorous people in the Northwest, and I know that he is going about his important task with great vigor, and of even greater importance, intelligence and good judgment. This is Secretary Braman's first appearance since being sworn in before the Congress in his new capacity as Assistant Secretary, Department of Transportation.

So we are delighted to extend to you, Mayor Braman, a very warm welcome on behalf of the committee.

STATEMENT OF HON. J. D. BRAMAN, ASSISTANT SECRETARY FOR URBAN SYSTEMS AND ENVIRONMENT, DEPARTMENT OF TRANSPORTATION

MR. BRAMAN. Thank you, Mr. Chairman, and gentlemen of the committee. It is a pleasure to appear before you representing the Department of Transportation for the first time, and I think I must reemphasize what the chairman said, that is a new activity within the Department, not necessarily a new interest by any means, but a new attempt to better organize the capacities of the Department to cope with this very, very important and very serious problem which we all face. I think that perhaps the reason that the Department of Transportation was asked to have a representative here before your committee was because within the purview of the Department of Transportation has lain in the past and will continue to lie in the future many of the activities that, at least, are most apparent to the people of the country in the field of environmental impact.

I am sure that I could tell you that having recently come from the field, from one city and one region, but more or less having had opportunities to serve in the National League of Cities and U.S. Conference of Mayors to represent a viewpoint which I am sure is shared in by every metropolitan region in the United States, and I am sure that to these people who inhabit these areas and who have had a growing concern, though in most instances it is not a deep knowledge perhaps of scientific implications as has been outlined by Dr. DuBridge as to what might happen to life itself in some of the areas of which we are destroying our environment, it is concerned with the things that they see about them in their daily lives. And in this area, I think, transportation and the activities of transportation organizations have been one of those which they have observed and which has created perhaps as much controversy and concern as any other area of the State and Federal operations. So I do appreciate this opportunity to be here.

As has been said by the chairman, Secretary Volpe has a very deep concern in finding ways in which we can in some manner rationalize

the things that must be done in the field of transportation with the best possible program for lessening their adverse impact. With this in mind, he did restructure his secretariat in such a way as he could make available one of the Assistant Secretary slots which was then titled, Urban Systems and Environment, and this office I was asked to head. The charter of this particular office is a very broad one. We are only now beginning to get to the point where we can see the manner in which we will attack the specific problems, but certainly it is very clear that one of the things the Secretary expects from this new office is a better decimation of information and better coordination between all of the activities of the Department which go to the whole field of highways, mass transportation, aviation, railroads, and many others to the end that the utilization of all funds, local, State, and national, can produce for the people the very best system of movement possible, at the same time recognizing that in many instances the determinations will have to be changed from being based on economics alone to a consideration of the economics as tempered by the impact on the environment. And this is going to mean in many instances a much more expensive approach than we have had in the past to solving these various problems of movement.

I do think that in a sense this represents a milestone in the Department of Transportation, and I am sure that it not only is a gesture, but it is intended to be a very meaningful one.

There is some obscurity in the authority that is available to us at the present time, and I would say that we certainly welcome the high level concern that is being expressed both in the executive and in the legislative branches of our Government. Without regard to where this program eventually lies, I am sure that we can expect a great deal more progress than we have had in the past, and I certainly pledge to the members of this committee that the Department of Transportation intends to exert every resource at its command to bring about improvement in the areas of which we have some jurisdiction. Now, I might point out that the activities of the Department of Transportation are very substantive. They are not necessarily affected too much by broad, long-range developmental problems, though we are among the first to say that we recognize research in its fullest capacity. We do hope that there will be methods developed by which we can accomplish our purpose in a more acceptable manner to the people we serve, but at the same time, there are decisions that have to be made on a day-to-day basis as we move along, that have to be made in what I would term hard decisions. I do not mean decisions difficult to arrive at, but rather decisions which eventually will have to be made and which not always and probably never will fully satisfy either side of the problem, for those who favor full consideration of the environment or those who favor full consideration of getting about the job of moving people and goods.

We do intend to make our recommendations based, as I stated previously, not on economics alone, but on the manner in which we can accomplish our purpose with the least damage.

Now, in closing, as Dr. DuBridge has stated in his testimony, the problem addressed by the bills before the committee is an exceedingly complex one. Many agencies and many diverse programs are involved. This fact suggests the need for a coordinating mechanism in the

Executive Office of the President. We believe the argument for maintaining organizational flexibility is a compelling one and would recommend an administrative, rather than statutory approach at this time.

Mr. Chairman, this concludes the excerpts from my prepared statement which has been filed with your committee.

The CHAIRMAN. Thank you for your excellent extemporaneous and prepared remarks.

(The full statement referred to follows:)

STATEMENT OF J. D. BRAMAN, ASSISTANT SECRETARY FOR URBAN SYSTEMS AND ENVIRONMENT, DEPARTMENT OF TRANSPORTATION

Mr. Chairman and members of the Committee: I am J. D. Braman, the Assistant Secretary for Urban Systems and Environment in the Department of Transportation.

I appreciate this opportunity to testify on S. 1075, S. 1752, and S. 237. Each of these bills, while they differ in detail, would establish a Council in the Executive Office of the President to advise the President on national environmental issues. The concept underlying each is the preservation of the quality of our environment through understanding and coping with the forces which can adversely affect it. The concern which prompts these bills is understood and shared by the Department.

Secretary Volpe has made emphatically clear his conviction that transportation must be conceived not only in terms of efficiency in the movement of people and goods, but—more comprehensively—in terms of its relation with all our human needs. In his first public address after taking charge of the Department of Transportation, he referred to the President's determination to provide leadership which acts on the premise that transportation is totally related to welfare, education, recreation and all other aspects of life. He told the Fourth Annual International Conference on Urban Transportation in Pittsburgh last month:

"The integrated transportation network that President Nixon and you and I dream of cannot be created overnight. But a system providing channels of choice out of the ghetto to suburban factories, insuring ready access in our leisure time to the varied pleasures of the countryside, safeguarding our precious heritage of historical sites and natural beauty and saving the land from irresponsible exploitation—such a system must be started now if we are to achieve our objective within the next generation. It may even be necessary for physical survival."

To strengthen the organization of the Department of Transportation to cope with such a challenge, Secretary Volpe has established the position of Assistant Secretary for Urban Systems and Environment, to which I have been appointed. He has designated this office to be the focal point within the Department for the resolution of questions as between the various modes, such as highway, rail, buses, and air, where they are part of the urban complex. We will also assist the Secretary in guiding the Department's operations so as to maximize our potential contribution to the safeguarding and enhancement of environmental values. This includes the implementation of section 4(f) of the Department of Transportation Act, relating to the natural beauty of the countryside, public parks, recreation areas, wildlife and waterfowl refuges and historic sites. It includes other social and environmental impacts of transportation facilities: prevention of air and water pollution, of noise, of vibration and other nuisances, and of avoidable disruptions in community relations; a concern for the visual impact of works, for the preservation and enhancement of aesthetic values, and the encouragement of good design as an objective of public engineering.

Because this move to coordinate these efforts from the Office of the Secretary is new, we have much to do in establishing the policies and processes necessary to carry out the Secretary's mandate. But the important first steps—the establishment of an organization and the assignment of responsibility—have been taken.

It is apparent that a broad recognition of the impact of our way of life on the environment in which we live is an all too recent phenomenon. Clear expressions of national concern about the effects of transportation technology and transportation development are, consequently, only beginning to be fully understood and decisively implemented.

It is no exaggeration, in my opinion, to say that the formal recognition of the importance of the environment expressed in the Department of Transportation

Act represents a milestone. While creating an agency whose basic purpose is to guide and nurture the development of a safe and efficient national transportation system, the Act makes it crystal clear that this end is not to be accomplished at the cost of destroying the environment in which we live.

While the Committee is concerned with the question of environmental quality in its broadest context, a detailed review of the statutory basis for assuring compatibility between transportation programs and environmental considerations might be of interest to the Committee.

In the area of water pollution, the Department, through the Coast Guard, is involved in the enforcement of the Oil Pollution Act of 1924 and in administering and enforcing the Oil Pollution Act of 1961. The earlier Act is concerned with oil discharges in coastal waters, the latter with discharges on the open seas. Currently, of course, Congress is considering comprehensive legislation which would substantially broaden the Department's responsibilities in the area of water pollution.

As a Nation, we have become increasingly aware of the destructive intrusion that noise—including transportation noise—makes on the quality of life. With the enactment last year of Public Law 90-411, the Federal Government took an important step in the direction of eliminating unnecessary aircraft noise by requiring the establishment of noise standards for aircraft.

In a somewhat more specialized requirement relating to the Federal aid highway program, the law has for some time required that highway location decisions in urban areas be preceded by procedures by which the affected citizens might make their views known. To assure that this obligation is effectively discharged, the Federal Highway Administration in the Department has recently published a policy and procedure memorandum which clearly sets forth required procedures and provides that, for any project covered by the statute, two public hearings will have to precede final route decisions. One hearing would be devoted to general corridor selection and the second would deal with the design details of the project.

In this connection, I might also mention the 1965 highway beautification legislation. This established a program for controlling billboards and junkyards alongside Federal-aid highways, with Federal funds authorized to facilitate orderly removal. The Department has successfully concluded agreements with 21 States governing mutual responsibilities in achieving the goals of the statute.

In enacting these laws, the Congress has spoken clearly and decisively on the need to consider the interaction between our transportation system and the environment in which it functions. I would like to turn now to the specific problem of urban transportation.

We believe the existing statutory framework provides an adequate basis for assuring coordination of federally assisted transportation projects with comprehensive plans for the development of urban areas. Congress has provided, through the "701" program of the Department of Housing and Urban Development, for Federal grants to State, regional, and local planning agencies to facilitate comprehensive planning for urban development. It has further provided, in section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, for a review of proposed development projects by any area-wide agency designated to perform metropolitan or regional planning. This requirement is specifically applicable to any application for a Federal loan or grant to develop a transportation facility.

In addition to these statutory requirements of general applicability, the enabling legislation establishing the various transportation programs administered by the Department of Transportation contain specific requirements to assure compatibility with comprehensive development plans. Thus, highway plans and programs are to be "formulated with due consideration to their probable effect on the future development of urban areas of more than fifty thousand population". (23 U.S.C. 134)

Prior to the Secretary's approval of an airport development project, section 9(d) (1) of the Federal Airport Act requires a finding that the project is "reasonably consistent with plans . . . for the development of the area in which the airport is located". Section 3(c) of the Urban Mass Transportation Act requires, as a condition to project approval, that the project be "essential to a program . . . for a unified or officially coordinated urban transportation system as part of the comprehensively planned development of the urban area".

Clearly, there is no lack of authority or obscurity in the objective of developing urban transportation systems to meet the broader goals of urban planning. This is not to say that there are no problems. We need to know much more

about the planning process itself, and we need to know more about the ways in which public facilities such as transportation affect urban development and how they can be used to achieve the desired environmental effects. While much remains to be done, the need is clear and progress is being made.

In addition to our efforts within the Department of Transportation, we have made considerable progress in improving coordination with other Government agencies who have an interest in our programs. The Department has entered into an agreement with the Department of Housing and Urban Development designed to provide for the coordination of planning by the two departments. We have also established particularly close working relationships with the Departments of Interior and of Health, Education, and Welfare to facilitate joint consideration of problems of mutual concern. In addition, we participate in a number of significant interagency groups and serve on other public bodies, such as the Advisory Council on Historic Preservation, the Marine Sciences Council, and the Migratory Bird Conservation Commission, through which we are kept currently abreast of developments relevant to environmental policy on a broad front.

As Dr. DuBridge stated in his testimony, the problem addressed by the bills before the Committee is an exceedingly complex one. Many agencies and many diverse programs are involved. This fact suggests the need for a coordinating mechanism in the Executive Office of the President. We believe the argument for maintaining organizational flexibility is a compelling one and would recommend an administrative, rather than a statutory approach at this time.

This concludes my prepared statement. I will be happy to answer any questions the Committee may have.

The CHAIRMAN. I think this presentation this morning has laid the groundwork for beginning to deal with the problems we face in this broad man-environment relationship area that is before the committee.

I would like to begin by asking whether there is not a need for a statutory definition of what would constitute a national policy on the environment? The bill that I introduced provides a rough statement of policy, but I am wondering if we can really proceed effectively, to start with you, Dr. DuBridge, without some kind of grant of authority in the form of a statutory declaration?

I think when one looks back on the problem of unemployment, certainly the Employment Act of 1946 was to become a milestone as a policy statement of the responsibility that the Government was to bear in this important area. It has been accepted by all administrations. It laid the groundwork, of course, for the setting up of the Council of Economic Advisers. It provided for an action-forcing process which I think is very important in government, in which the executive branch must indicate in an annual message to the Congress the current economic situation; and projections as to employment, economic growth, and so on. It became a matter of national policy. I would think that a similar statutory declaration would help to strengthen the President's hand in this area. I have no doubt about what the President's objectives are. I think they are clear. As we go into this, Dr. DuBridge, there is, I think, broad agreement on the need for a role on the part of the Federal Government. I think what we will sort of narrow the issue down to is how best to structure and restructure the Government.

If we can resolve that, we can resolve the other problems, including the need for some kind of a statutory declaration. I would like to have your comments.

Dr. DuBRIDGE. Well, Mr. Chairman, you are obviously more familiar with the processes of government and the relations between the branches of government than I am. It is certainly true as you have said

that a rapport, a feeling of understanding and mutual trust as well as mutual goals, sharing of goals, is very essential between the administrative and legislative branches of our Government; and that anything the Congress can do to support the goals of the administration in an area such as this where there is complete agreement on the nature of the goals would be, of course, extremely helpful to the administration.

I am afraid I am not competent really to indicate as to precisely how this best can be done. S. 1075 starts out by saying that it authorizes the Secretary of the Interior to conduct investigations, which is a fine thing to do, and I think the Secretary of the Interior wants this done and is doing this now and might welcome additional help in getting it done more effectively. The President's Council on the Environmental Quality, however, would make use of such research and studies and information as Interior and Transportation and other agencies would produce to bring up to the Council an action program in which we will say, gentlemen, we must do the following things, and the following Cabinet members will be responsible for implementing those things. So the President's proposal goes beyond research and studies and bringing together ideas. It includes them but it then brings it up to a place where action can be authorized and initiated.

The membership of the proposed Council in the preliminary papers which are now being processed would include the Vice President, the Secretaries of Agriculture, Commerce, HEW, Housing and Urban Development, Interior, and Transportation. This obviously is a group of Secretaries of leading Cabinet agencies that are very much concerned, each individually, but they must bring their efforts together, they must coordinate them, they must conduct coordinated studies and they must work together jointly on action programs, and here is a place where the action can take place.

Now, I think I must leave it to you gentlemen to determine how you can best support the objectives of such a Council and support its operation, its funding, its staffing and all the rest. There is one point you might consider. The staffing of such a Council is not a simple matter. At the present time, Congress has been a little chary, shall I put it mildly, about having departments or agencies loan or furnish staff to intergovernmental agencies. We are going to need staff for this Council from many agencies, and if Congress can authorize staff assignments from the various departments to assist in the work of this Council, it would be very helpful.

The CHAIRMAN. At the present time, I believe OST has only 29 professionals.

Dr. DuBRIDGE. Well, I am afraid it is even fewer than that, Mr. Chairman.

The CHAIRMAN. Well, that was before the announced budget adjustments yesterday.

Dr. DuBRIDGE. Yes. We have about 20.

The CHAIRMAN. Your present staffing situation would mean that you would probably have only one or two people to work with the Council on a full-time basis; wouldn't it?

Dr. DuBRIDGE. No, it is better than that.

The CHAIRMAN. Is it?

Dr. DuBRIDGE. The problem of the environment has been of concern to previous administrations and has been of concern to the Office of Science and Technology for a number of years. Indeed, my predecessor and his staff have worked with Interior, with HUD, with DOT, and other agencies on these problems for many years. So as a matter of fact, there are nine members of the staff that are now in office, and we are looking for 10, who have already wide experience in this area and who will be assigned to this task of supporting the work of the Council. There is one who is an ecologist, one who is an entomologist, two who are engineers and civilian technologists and interested in urban transportation type of engineering, three—a lawyer, an economist, and an engineer—who are working together on energy policy matters, and the siting of energy plants or powerplants is a very important part of this; there is one man in the field who is an expert in water resource area, and another who is an expert in the field of geophysics and oceanography.

The CHAIRMAN. But they are not working full time on environmental matters; are they?

Dr. DuBRIDGE. Well, essentially, or matters relating to environment. They are not working full time for this Council yet since it does not exist. They constitute a supporting staff which would be available to call.

In addition to that, Mr. Chairman, I should point out that the President's Science Advisory Committee, which is a group of distinguished scientists and engineers from outside the Government, is the supporting advisory agency for the Office of Science and Technology. They have had in operation for some time a panel on environmental quality with experts in science, social science and engineering and other areas, and it was this panel after a lot of very hard work that really have provided the background papers which will serve as the guidelines for the new Council when it gets underway. And they have done a superb job on that and will continue active work.

In addition to that, there exists an agency called the Federal Council for Science and Technology. This is an intergovernment agency of which I am the Chairman which consists of the top science policy officers in all agencies of Government.

In some cases, the top science policy man is the head of an agency, as in the case of the Atomic Energy Commission, the National Aeronautics and Space Administration, and the National Science Foundation. In other cases, he is an officer of the Government, like Mr. Train, who is the chief science policy man in Interior and so on. Now, FCST has also been interested in environmental problems for a number of years, and they have a special committee on environmental problems attempting to coordinate the work within the Government. So that there is within OST the external supporting advisory group, the internal supporting advisory group, and, as I say, a staff, but I hasten to add as I said before that additional staff will be needed, supplied either by new positions, or by the loan of staff from other agencies that are concerned, or the assignment of staff to the work of this Council. This will be true no matter what organization you set up. The problem of staffing is a difficult one.

The CHAIRMAN. Would you be in general agreement with the policy declaration in S. 1075? That is the beginning of the bill, the first page.

I might point out that Professor Caldwell who is an expert in this field, as you know, from the University of Indiana, feels a more explicit and broader statement of policy is perhaps needed. He has in mind a directive in certain areas relating, of course, to questions of clean air and water, and to the right of the public to esthetically pleasing surroundings.

S. 1075 is a working paper, Dr. DuBridge, and I do not want to leave the impression that it represents a final declaration. But I want to add further that if the interdepartmental council is to be effective, it has to be backed up with some kind of statutory directive from the Congress because you are dealing with equal body. I think this is going to be a real difficult problem.

In my studies over the years, in the National Security field I discovered that in interagency councils or committees there is an inevitable tendency to compromise differences. Each agency has its own conflicts of interests, and you are more apt than not to end up with the least common denominator. Maybe there is hope that this can work, but if you are going to follow this route, you almost have to include all the Federal agencies.

For example, the Atomic Energy Commission is not involved in your proposal. I would point out that at the rate at which we are going to need new nuclear powered plants, we are going to run into tremendous environmental problems. In the Pacific Northwest, we have already run into this difficulty of where to locate a plant. Someone has said—and I do not vouch for the authenticity of this; it is merely a projection—that in 20 years hence 80 percent of our water will be required for cooling nuclear plants. The Atomic Energy Commission has one of the most immediate problems in the environmental field facing any agency. But they have no statutory authority, as I understand it, to even deny a permit or a license because of environmental considerations.

In fact, the only environmental directive of any substance other than just general declarations that are included in the national parks legislation appears in the Department of Transportation Act in which Secretary Braman is involved. That was written in by the Government Operations Committee when the new Department was set up. And this is a specific directive involving the question of environment as it relates to transportation: that is, to preserve the integrity of our parks and recreational areas and try to balance these values with our highway requirements.

So first, I would like to get your comments—and I want you to understand, Dr. DuBridge, I am not suggesting that you be confined to this language or some other language, but just to the broad need for an environmental policy directive.

Dr. DuBRIDGE. Yes. Well, thank you, Mr. Chairman. May I go back and mention one item which I should have mentioned in my previous comments.

In addition to the advisory and staff mechanisms that I mentioned, there is an additional one that is very important, namely the Citizens Advisory Committee on Recreation and Natural Beauty which is now headed by Laurance Rockefeller.

The CHAIRMAN. Yes.

Dr. DuBRIDGE. This will become a Citizen Advisory Committee to

the proposed new Council which would depend very highly on the very distinguished citizens on that Committee to advise the new Council.

You mentioned the question of other agencies that are involved. I agree, sir, that there are many agencies of government that are involved, and this is one of the problems. This proposed Executive order would encompass a provisions by, first, providing the Council can appoint such other individuals as it deems necessary from time to time, and secondly, by providing that any Federal agency heads which are not members of the Council may be invited to participate in the deliberations of the Council in connection with matters that come under their jurisdiction.

It is very clear that the Atomic Energy Commission has some very important matters to consider. It is not only nuclear powerplants, Mr. Chairman, that discharge heat into our water, but any powerplant by its very nature has waste heat which it must discharge either into the air or into a stream. Incidentally, they do not use up water; they simply warm it up. Now, warming up water in a stream may be harmless, but it is sometimes very harmful to the particular form of life that may be there.

My office prepared last year a report on this problem of steam power plant site selection, and what the considerations were in the selection of a powerplant, whether it is coal, oil, or nuclear, the considerations which should be brought into the licensing or the permission of a plant to locate at a particular site, as I say, whether nuclear or any other form of steam generating plant.

Now, I believe there is legislation now being developed which will give some authorization to some agency so that as powerplant sites are being selected, the environmental as well as the safety and health factors will be considered.

The CHAIRMAN. But I take it that you do support a statutory declaration of policy?

Dr. DuBRIDGE. Yes, sir.

The CHAIRMAN. Assuming, of course, that the Committee and the administration can get together on appropriate language that would strengthen your hand in dealing with these problems.

Dr. DuBRIDGE. My only comment on this policy statement, which is fine, is that I think we would add to it—you say a comprehensive and continuing program of study, review and research. I would add “action.” What we need most of all is after we have done the research, developed ideas, to get action, and the President can produce action. It is true that interagency committees represent their own interests and often they have to compromise, but since a system, a problem such as this inevitably involves all Government agencies, it cannot be done through a single agency, it cannot be done even through a new independent agency which would still have to depend upon the existing agencies. Therefore, the best thing is to get the top of the agencies and let the President crack their heads together and make sure that action ensues.

The CHAIRMAN. The Chair is going to ask the staff to get a list of all of the interdepartmental committees that are now functioning.

Dr. DuBRIDGE. It will be a very long list, sir.

The CHAIRMAN. You see this is what worries me, because on Janu-

ary 28, 1961, to read from a report of a subcommittee that I chair and still chair, it was pointed out that in the National Security area alone:

A very high percentage of committees serve no useful purpose or else performing a necessary service in the beginning they live long after their reason for existence has been ended. Mr. Avril Harriman has suggested the possibility of a committee killing outfit charged with regularly reviewing the need for the continued existence of particular committees and identifying those which merit extinction.

We suggested that the Bureau of the Budget might properly give this task higher priority.

You see, Dr. DuBridge, this is why I am deeply concerned, because my own observation is that this process, over the years, has not been very good. The effectiveness of these interdepartmental committees is highly questionable, unless there is a chairman who can make the decision. Otherwise what happens is that they all get together, they compromise and come up with the least common denominator or they come up with as many different minority views as there are representatives. I assure you there is nothing partisan about my concern. I have directed this at all administrations; it is a matter of trying to operate effectively in the executive branch.

It seems to me that in the end, after we look at all of the alternatives, you will find that there will need to be an arm for the President, in the Executive Office of the President, to give him the objective, impartial advice that he needs. I could go right down the list of agencies that are not on this Council—the Corps of Engineers and others. They are heavily involved. Their activities have a direct impact on the quality of the human environment.

Dr. DuBRIDGE. But if you have got 300 people on the Council, it would be obviously ineffective. If you get eight people, it may take action.

The CHAIRMAN. I know. But then you have the problem of the Council telling another equal Cabinet officer what ought to be done.

Dr. DuBRIDGE. The President will tell us. There are dozens of inter-agency committees but there are very few chaired by the President.

The CHAIRMAN. The President has the most onerous job in the world. The President is so burdened that the amount of time he can really give to this task is, I think, questionable. And I am not so sure that the President should give of his time to the extent of presiding over interdepartmental committees. I think this raises a very, very serious question.

Dr. DuBRIDGE. But this is a question of the President's own priority. In addition to the Cabinet, he has felt there are three important areas that he wanted to give his attention to: National security, foreign friendship with nations, urban affairs and environment. There are three committees, Cabinet level committees which he chairs in those three areas. These are three of his very prime concerns. Therefore, it is his choice that this is an area of such importance that he wants to give his time to it and he wants to bring this group together to get action on these very important problems. At the Cabinet meeting yesterday, more than a third of the time—with the Cabinet wives present you remember if you read the paper this morning—more than a third of the time was given to discussion with the whole Cabinet on this question of the environment and the problems and the mechanism for treat-

ing with it. It has been discussed at previous Cabinet meetings, and I am sure the President is devoted to this job and is going to give it time.

Now, after a year or two goes by, things are rolling and mechanisms have been set up for carrying on, then maybe other mechanisms can come along to carry the problem on further, and the President will not need to give his full attention to it. But to get it cranked up, it seems to me it is important to have an executive agency at high level. The agency proposed in your bill is a perfectly fine one, but there again a Council of Advisers would only be advisers and all they would do, as the present Council of Economic Advisers, they would advise the President of what action he ought to take, and, therefore, he ought to have to check with their advice and check with the agencies before he could direct the agencies to carry out his advice.

The CHAIRMAN. But at least you would have an advisory proceeding. You see, Dr. DuBridge, my point is that the advice, with all due respect, that the President would receive from the departments will be advice that will not be adverse to them. It will be compromised advice. This has been the history of the agencies. It is hard for the President to get objective advice. This is why the Bureau of the Budget plays such an important role. This is why your office plays an important role. You have science in every department of the Government, and the President really needs to be armed with information with which he can effectively deal with the Cabinet departments. He needs to be armed with impartial advice, even advice of an adversary nature which will place the options for decision before the President.

What I am concerned about, you see, is whether or not the President is going to be presented with a series of options that stem from an impartial source. This is casting no reflection on a Department, but every Cabinet officer gets pressures right from the bottom on up. They are all crowding him about protecting this, preserving that, or not doing this. It is natural. It is human nature.

Dr. DuBRIDGE. Well, that is the reason he is provided that the Executive Secretariat of the committee shall be based in his Office, in the Executive Office of the President, and it will be the job of the Executive Secretariat which my office will be the headquarters of to do precisely what you say, sir. And I agree completely that one must have independent evaluations of the activities and responsibilities of the various departments, that it must have the best outside advice that one can get, and operate out of the President's Office to bring the best adversary position, as you put it, to the attention of the Council. I certainly agree with what you said and that is the mechanism that goes with it.

The CHAIRMAN. Well, I am sure we can find some resolution to this problem. I have just one more question and then I shall defer to my colleagues. Secretary Hickel, on page six at the bottom of the page, the last two paragraphs of your statement, you mention the appointment of a departmental task force, whose immediate responsibility—I am quoting—“will be to recommend guidelines for the development of the North slope.” I think this is excellent. Now, in the next paragraph that follows, and I quote, “at the same time, we wish to enlist the cooperation of the petroleum industry, and will be seeking industry representatives to work closely with our task force.” I am wondering if it would not be a good idea to include some of the conservation groups in this task force.

I might say that as chairman of the committee I have been considering for some time convening an informal conference that could be worked out with the industry, the Department, conservation organizations, and people from Alaska: a broad-based group, to sit down and go over some of the problems in advance so that we could anticipate future problems. I would just like to make the suggestion that included in the task force might be appropriate representatives from the field of conservation.

Secretary HICKEL. Thank you, Mr. Chairman. Yes, in fact, we will be seeking a lot of outside support. And basically what I was going to try to come up with was something like our old North Commission which we had in Alaska on which we had many prominent people, men like General Lindburg, who was advisor to that committee and who I will be meeting at the end of this month.

But the most important thing is that we get industry to see the picture as we see it and that there are ways that they can do what has to be done and yet not disturb what we think should not be disturbed. And I think within our department, the men that I have talked to, including agency heads, are fully aware of what we are trying to do, which is not allow this thing to go helter skelter but to have some sort of a plan.

And I might say this, Mr. Chairman, that I have had a difficult time even before I was Secretary, when I was Governor, trying to get men in the Federal Government to understand the unique geographical location and the unique climatic problems that we have on the North Slope, and for this reason we are starting within our department and proceeding from there.

The CHAIRMAN. Well, I hope that when you get into that you will try to get some of the conservation groups involved because they have expressed, as you know, a deep concern about the impact of the pipeline and other industrial activities in this area. And I am sure you will do that.

Secretary HICKEL. We will. I would like to mention one more thing, Mr. Chairman. The urgency of the Federal Government agencies collectively to take some action in a hurry because what is happening up there now is going to set a pattern for many years to come, and I think these guidelines have to come not in 2 years or not even 1 year. We are going to try to expedite something immediately.

The CHAIRMAN. Well, I commend you for anticipating this problem. I think that one of the most important procedures that needs to be followed in dealing with the problems of the environment, is to initiate research and to exercise that degree of judgment that tells us that unless something is done now, we are going to have greater problems in the future.

Secretary HICKEL. Yes.

The CHAIRMAN. And this does present a tremendous challenge. I am delighted that this task force has gone forward, and that appropriate participation will be had by people from the conservation area, conservation groups, and so on.

Senator Tydings was scheduled earlier. Did you wish to make your statement, Senator Tydings?

Senator TYDINGS. Whichever is convenient to the committee. I can very well wait until after Mr. Hickel and the others finish.

The CHAIRMAN. I think if it is going to take a little while. We have all the cabinet people here and the President's representative. I think we would like to finish this morning.

Senator TYDINGS. Do you want me to come back?

The CHAIRMAN. Could you come back at 2 o'clock this afternoon when we have finished the Government's witnesses? We are right in the questioning process now.

Senator TYDINGS. All right.

The CHAIRMAN. Would that be convenient—anytime this afternoon?

Senator TYDINGS. All right.

The CHAIRMAN. Anytime this afternoon?

Senator TYDINGS. I will come back at 2 o'clock.

The CHAIRMAN. Would that be appropriate?

Senator TYDINGS. Fine.

The CHAIRMAN. We deeply appreciate your doing this so that we can complete the testimony from the witnesses.

Thank you.

Senator Allott?

Senator ALLOTT. Thank you, Mr. Chairman. I do not think we have a basic question for determination in this matter. Everybody is concerned about the quality of our environment and you do not have to go far to meet some aspect of it.

It seems to me that the basic problem with which we are involved is not a determination of whether there is a problem, nor are we even concerned at the moment with, what we do with specific problems. Basically, we are concerned with the best method of coordinating and making effective the various activities of the Government to solve the environmental problems, about which we are all concerned. Now, the Chairman has already pointed out that there are many agencies involved in this matter, and he did not even begin to exhaust the list. As I took my high school physics—Dr. DuBridge, and you may not believe it, but I did take it—I recall something to the effect that you cannot destroy matter; you can only convert it. Is this roughly the truth?

Dr. DuBRIDGE. Yes, sir—if by matter you include energy, of course.

Senator ALLOTT. Matter and energy. And therefore in the problem of pesticides, for example, you cannot destroy a pesticide. It only is converted by deterioration or photosynthesis or some other method to other forms of matter.

You pointed out, and I think it is true—at least I am satisfied that this Senator owes his own good health after 2 years in the South Pacific to the prolific use of DDT—that literally hundreds of thousands of our men who have served in those areas owe their health to the use of what was then and still is a very efficacious pesticide but which has turned up side effects which are not so desirable. For example, it would be easy in an emotional way to say we do away with all pesticides, including DDT. If we did this we would also destroy the fantastic productive capability of our American agriculture.

Dr. DuBRIDGE. That is correct.

Senator ALLOTT. This would be a necessary fallout, if you just did away with them. So this raises the question, do you find more efficacious means of killing bugs and blights and weevils, and so forth, or how do you do it?

You were facetious, perhaps, in your remark about passing a law to stop selling gasoline. Now, no one has ever mentioned this before that I can recall, but it is possible without greatly inconveniencing the American public to cut down on these gas eating monsters of 380 and 400 and 425 and 440 cubic inch displacement. Everyone could get adequate transportation with a cubic displacement in the automobiles of at least half that size. And yet no one has suggested this as a means of cutting the auto pollution in half. It is one thing that could be done. Which brings me to the point that, if we are going to really solve the environmental problem, which is basically a problem of the population growth which in turn has produced the industrial expansion, many of us are going to have to modify in some respect what we have long considered to be our manner of life.

I am particularly glad to see Secretary Braman here because he represents a field and is from a department in which I am greatly interested. Mr. Secretary, I am not wrong, am I, in saying that if we were to have an adequate subway system in the District of Columbia, we could move 40,000 an hour on a single line where we are moving 25,000 on a single street? Are these figures way out of line?

Secretary BRAMAN. I would not be able to testify to the exact figures in the District of Columbia, but they are quite in line with other figures that I have knowledge of in the past, yes.

Senator ALLOTT. So that it seems to me that we have a lot of thinking to do about this. The fourth thing about it is that no one here is in conflict about the basic problem we have.

I would like to say that in listening to you gentlemen—and I want to give my colleagues an opportunity to express themselves, and also to ask questions—the one thing that appeals to me about your approach, Dr. DuBridge, is the argument of having heads of departments on the council who can implement and initiate policies.

I will not cast a blight on any of the dozens of interdepartmental committees and joint committees that exist. I belong to one joint committee which meets at least once every year, not much more often. But, there is no question in my mind that through Parkinson's Law, we develop these things each one requires office space and for each employee you hire, you have committed the Government to \$15,000 in space and salary on an average. I am concerned that about all of the studies that can come out of a council; a commission, or a committee without producing actual results in the end. The most appealing thing to me about the Administration's approach to this thing, the President's approach, is that you develop the staff under the people who can actually implement and initiate policy under the direction of the President. And, of course, Congress always has its prerogatives to guide and appropriate, and so forth, in these areas.

That is all I have, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Allott.

Senator Anderson?

Senator ANDERSON. I am interested in Secretary Hickel's statement. Was your statement approved by the Bureau of the Budget?

Secretary HICKEL. Yes.

Senator ANDERSON. Therefore, the Bureau of the Budget condemns these three bills?

Secretary HICKEL. I would not say that specifically.

Senator ANDERSON. Why not?

Secretary HICKEL. I did not ask specifically.

Senator ANDERSON. Pardon?

The CHAIRMAN. He says he did not ask them specifically.

Senator ANDERSON. They volunteered?

Secretary HICKEL. Yes. I think the objective of the whole idea, as put forth in Chairman Jackson's statement so well, is an excellent one.

Senator ANDERSON. Well, and I quote: "It is our belief that the proposed new Environmental Quality Council makes unnecessary the kind of Council proposed in S. 1075."

Secretary HICKEL. Right.

Senator ANDERSON. Later on in your statement: "It is our recommendation that legislation such as contained in Title I of S. 1075 not be enacted."

Secretary HICKEL. That is right, Senator.

Senator ANDERSON. Well, then, does that not hit the three bills?

Secretary HICKEL. It does.

The CHAIRMAN. Would the Senator yield there? I think it is in the present form, because in the letter signed by Under Secretary Train, he says, "while we favor the objectives of these bills, we do not recommend their favorable consideration in view of President Nixon's announced intention to establish an interdepartmental Environmental Quality Council."

I take it that the objection runs to the structuring of an organization within the executive branch and not to the policy declarations of the committee, that are proposed in the three bills. Am I correct in that?

Secretary HICKEL. I think that is right. They favor the objectives of the bill. It is just a matter of whether it is done executively or legislatively.

Senator ANDERSON. If you favor the objective, why do you say it should not be done?

The CHAIRMAN. In the present form.

Secretary HICKEL. Because the President has the intention of establishing an interdepartmental Environmental Quality Council. And he feels it does not take legislation at this point.

Senator ANDERSON. My concern is that the groups have had this type of organization before, and the Joint Committee on Atomic Energy is an example of it. I just hope that you do not kill Senator Jackson's bill.

Thank you.

The CHAIRMAN. Thank you Senator Anderson.

Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

May I commend the panel for their fine statements in this very important area. It seems to me while there may be a difference of how to implement policy, there is very little difference in the policy itself. Is this a fair statement, Mr. DuBridge?

Dr. DuBRIDGE. Yes, sir. The only question is: What is the most effective instrument to get the action that is recommended in this bill?

Senator JORDAN. Yes. And you personally would not object to a statutory declaration of policy if that appeared to be an important matter?

Dr. DuBRIDGE. I think the administration would welcome that very much; yes, sir.

Senator JORDAN. Well, I call your attention, all of you who are here, to the declaration of policy which the chairman referred to earlier in the Employment Act of 1946. And I think it is important enough, Mr. Chairman, that I want to read it into the record at this time, because here is a declaration of policy that was put together to meet an emergency situation at the time, and the fact that it has not been amended down through the 23 years since that time indicates that there is still a meeting of the minds in this area. So I read it just hurriedly.

Section 1021. Declaration of Policy of the Employment Act of 1946.

The Congress declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means consistent with its needs and obligations and other essential considerations of national policy, with the assistance and cooperation of industry, agriculture, labor, and State and local governments, to coordinate and utilize all its plans, functions, resources for the purpose of creating and maintaining, in a manner calculated to foster and promote free competitive enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking to work, and to promote maximum employment, production, and purchasing power.

Now, that statement of policy has stood the test of time, and to implement it a Council of Economic Advisers was set up independent of the executive branch, that is, the regular Cabinet members, and they were given independent status.

So I have an open mind on how best to implement such a policy, but I do believe that it would be useful, it would be constructive to spell out such a policy in this instance. And if you would agree that statutory enactment of such a policy would be desirable, then we have one step forward in this very important area. Would you so agree?

Dr. DuBRIDGE. I certainly would agree, and the policy statement here is excellent. I would only hope that you would add some action sentences to it, to authorize action as well as study and research.

Senator JORDAN. Exactly so. I don't have the words, but I think the words can be had that would encompass the very objective that you have stated, that the chairman has stated in his bill, and that we all agree should be spelled out in a tangible way so that people can refer to it and say, "this is what we believe," and upon this we will bottom legislation to accomplish these objectives.

No matter how you do it, whether you do it by the interagency approach or an independent agency, these are matters that could be resolved later. But the essential thing, it seems to me, is what priority we give this work. Would you agree that it should have high priority? Apparently you do, because in the recommendation that came from the administration the President is to chair——

Dr. DuBRIDGE. Yes.

Senator JORDAN (continuing). This committee or this council. So it is not a matter, then, of there being a declaration of policy. We are all agreed on that. Do you agree that it should have high priority? We think it should have high priority. There is no disagreement there. Isn't it a matter, then, of not rejecting this bill, not rejecting this legislation, but coming forward with something that will implement what the chairman has in mind and what the administration has in mind?

Dr. DuBRIDGE. I think that is exactly right; yes, sir. And I am sure the Secretary would——

Senator JORDAN. Secretary Hickel, would you agree?

Secretary HICKEL. Yes; I would agree. I think the problem here is that environment is so broad, it covers so many things—in fact, as you mentioned, unemployment. Unemployment can be more of a specific thing, and I think if we could get the broad guidelines of the intent of Congress down in some sort of declaration, that that would be a wonderful help. But every time we have tried to get into it within our Department and others, we have found another phase of environment that hadn't been thought of, for example, the beautiful building is environment in some people's eyes, and we get into all kinds of facts and factors that always kept adding up. I think if it could be broad enough, because the term environment is pretty hard to put down on a piece of paper, it would be helpful.

Senator JORDAN. Well, I have an open mind on how we implement it, but I see some merit to the proposition of having an independent council whose sole and single purpose is to deal with this subject.

I hope you will keep that in mind, because I have seen interagency committees come and go, and most of them never go, they live forever once they are organized. And I say in my experience this Council of Economic Advisers has been more fruitful than all of the interagency committees I have seen in this Congress. And it is an independent agency. So I recommend it to you for your inspection and your consideration.

That is all I have, Mr. Chairman.

The CHAIRMAN. I want to thank Senator Jordan for those questions and an excellent statement. I want to say to the administration witness that I feel that we can get together after the hearings have been completed and try to work out some acceptable solution to his problem. As I understand the testimony today there is complete agreement about the need to do something in this area. I think that where there is a difference of opinion it is as to what kind of Federal action-forcing process should be set up.

I think the other problems can be resolved. Maybe we can resolve the structural problems as well.

I look forward, after we have completed our hearings, to an opportunity to sit down on a conference basis and go over the differences that exist. They are minor when compared with the agreement that I find between the administration and the committee about the need to act and to implement a policy declaration and, as Dr. DuBridge has mentioned, the need for action. I am confident that we can work that out.

Senator Bible.

Senator BIBLE. Thank you, Mr. Chairman.

Secretary Hickel, could you indicate the number of bureaus and agencies within your Department that are primarily concerned with the problems of environment?

Secretary HICKEL. They all are, Senator. I think on this task force—

Senator BIBLE. I don't mean on the task force. I mean in the agency that you head up right now, the Department of Interior. For example, the Bureau of Outdoor Recreation is interested in the improvement and preservation of the environment; isn't that right?

Secretary HICKEL. Right; that is true. I think they all are, Senator.

Senator BIBLE. Well, some that have primary responsibility, though,

in the area, such as the Water Pollution Control Administration. Its primary responsibility is vested in that Bureau; isn't that true?

Secretary HICKEL. Very true.

Senator BIBLE. How about the Office of Water Resources Research?

Secretary HICKEL. Yes, likewise.

Senator BIBLE. And the Office of Saline Water?

Secretary HICKEL. Yes.

Senator BIBLE. How about the Bureau of Reclamation?

Secretary HICKEL. I think that it has to take into consideration environment more and more in all the jobs that it does, and I do think, along those lines, that it has done an excellent job, but it can do more things than just reclamation. We have discussed that.

Senator BIBLE. And the Federal Water Pollution Control Administration?

Secretary HICKEL. Yes.

Senator BIBLE. That certainly was primarily set up and assigned to take care of environment problems; isn't that true?

Secretary HICKEL. Right; absolutely.

Senator BIBLE. The thing that concerns me is not the objective but the structuring, and I think it must be done by some type of a legislative act. I think that is the proper way to do it.

But I am concerned in the Administration attitude in one area that just came to our attention yesterday, and that was the elimination of a great deal of the moneys for the acquisition of lands for both the parks and the Forest Service, because these are certainly pretty well related to the protection and preservation and conservation of our environment; aren't they?

Secretary HICKEL. That is very true. I think it is one, Senator, of assigning priorities. We had a difficult time trying to figure out what to do and where to go, and I think we made the best choice that we could possibly make. And I think they haven't been really killed, so to speak; they have just been put off for a while.

Senator BIBLE. Well, of course, they are put off at an ever-increasing cost of which you are certainly aware.

Secretary HICKEL. I am well aware of that.

Senator BIBLE. And if the Appropriations Committee, in its wisdom, should see fit to put back a number of dollars to try to meet this need, which is going to be dollars saved in the long run, would you spend it?

Secretary HICKEL. I would take a look at that, but I would be awfully tempted.

Senator BIBLE. I hope that temptation will go beyond just the talking stage and get into the action stage. You have emphasized action, and you have a number of bureaus and agencies within the Department of Interior that are structured right now as action committees and bureaus, and they all require some sinews, and that means money. And I would hope that you would take a new look at this.

It is distressing to me because our experience in handling these bills over the last 10 years has shown that every time we run into a deferment, such as you are suggesting here, the prices soar and civilization moves in, and the natural resources are actually decimated. So I hope you take a good close look at that.

Secretary HICKEL. I would like to point out, Senator, we haven't cut back. We haven't increased. We haven't destroyed the program.

Senator BIBLE. No, but you took a pretty substantial chunk out of the——

Secretary HICKEL. Out of the proposed budget but not out of what was there before. We didn't cut it below the 1969 level.

Senator BIBLE. Well, it shows here, if I read the backup on this correctly, there is a cut at the 1969 level——

Secretary HICKEL. In land acquisition.

Senator BIBLE. Under your contract authority. You haven't used that contract authority to date, have you?

I think you have taken a very substantial cut in 1969, the budget you are operating under right now, insofar as contract authority is concerned.

Mr. Train might——

Mr. TRAIN. May I respond to that, Senator Bible?

Senator BIBLE. Certainly.

Mr. TRAIN. You brought that to my attention at the Appropriations Committee hearing. The committee had provided \$30 million of contract authority for 1969 and also for 1970. The Department has received clearance since that hearing of a week or so ago for the use of approximately \$15 million of that contract authority in 1969.

Senator BIBLE. Correct.

Mr. TRAIN. And it is our belief that that is the maximum amount that we could obligate prior to the end of this fiscal year.

Senator BIBLE. Well then, you will be obligating half of the contract authority.

Mr. TRAIN. That is correct.

Senator BIBLE. You have \$30 million authorized, and you could go forward with it——

Mr. TRAIN. That is right.

Senator BIBLE. You are going to go forward between now and July 1st with \$15 million of it.

Mr. TRAIN. That is right.

Senator BIBLE. And then next year you are going to completely eliminate the \$30 million?

Mr. TRAIN. Well, we haven't faced the next year's \$30 million contract authority.

Senator BIBLE. That is under your fiscal year 1970?

Mr. TRAIN. I would hope that the Department would be able to use the full amount.

Senator BIBLE. Well, I am just reading from your own backup on this, what I think is an unduly heavy cut in a program that you are going to have to face up to in the years ahead, and it comes almost entirely from the Land and Water Conservation Fund anyway. It is development funding, and if I read this correctly you take out the whole \$30 million; am I right or wrong?

Mr. TRAIN. The budget that has been submitted to Congress, the revised budget, reduces the actual spending authority for the Land and Water program by \$30 million in 1970.

Senator BIBLE. Correct.

Mr. TRAIN. \$15 million of that is made up of a reduction in the contract authority for 1969, which would be liquidated in 1970, and giving up \$15 of new budget authority for 1970.

Senator BIBLE. Well, I am glad to have had that clarification, be-

cause this shows here—and I am reading from page two of your backup—revised 1970 shows a complete deletion of \$30 million in the form that I have before me, but you say that is \$15 million out of fiscal year 1969, \$15 million——

Mr. TRAIN. Contract authority.

Senator BIBLE (continuing). Of contract authority. That is all I am talking about.

Mr. TRAIN. Which would have to be liquidated by appropriations in 1970.

Senator BIBLE. I understand. Well, I am glad to have that clarification for the record. I do hope that as you press forward in this environmental preservation you give consideration to the fact that this is one of the areas that must be preserved.

The CHAIRMAN. Senator Hansen, I believe, is next.

Senator HANSEN. Thank you very much, Mr. Chairman.

If I may, Mr. Chairman, I would like to direct my questions to Under Secretary Train. I refer to the letter that you have written to Senator Jackson as chairman of this committee, dated April 15. As I read your letter, Mr. Secretary, I gather that you find much merit in the objectives of the various bills which are before this committee but that you do raise some questions about the problems of trying to implement the objectives under that proposed legislation.

Referring to the fourth paragraph in your letter, you say :

First. Interior would prepare surveys and document and define changes in the natural environment and receive and maintain data on ecological research. These are enormous tasks requiring much time and money. While effort in this direction is needed, a much clearer description of objectives should be developed before we attempt to legislate a program in this area.

Now, when Senator Jordan was asking questions, I think Dr. DuBridge made the observation that he would not look with disfavor upon a spelling out of certain objectives and some approaches that might be considered. You share that view, do you?

Mr. TRAIN. Yes, sir, Senator Hansen.

Let me say, first, that this is the Department's report on the pending legislation which came up here over my signature. It doesn't specify my individual views. It is the views of the Department.

Secondly, I personally certainly share the views expressed by Secretary Hickel and Dr. DuBridge that it would be highly desirable for the Congress to enunciate by legislation a clear statement of national policy toward the environment.

Now, I do not think that this is something that can be done easily. I have tried my hand at it in the past and never yet have been satisfied with the results. The Full Employment Act objectives certainly represent the kind of goal at which we should shoot. But when you talk about the economy, you are talking about quantifiable goals such as full employment, purchasing power, but when you talk about environmental quality, these objectives are not so easily quantifiable.

And what may be quality to one person is not always quality to everyone else. So we are dealing here not only with tangibles but also with some intangibles, and this is what gives rise to the difficulties of definition. But I certainly agree that it would be a very worthwhile effort of this committee in cooperation with the executive department to make, and we certainly will cooperate with this committee in that respect.

Senator HANSEN. You make the point, or the point is made further down in the Department's position as spelled out in your letter, and I read, "If Interior must depend on other agencies coming to it, it is doubtful that many will. If Interior should volunteer its comments, it may be viewed as an interloper by other agencies and by those who benefit from the projects.

If the agencies were required to come to Interior, present administrative procedures would need to be changed.

Then you continue by saying:

The Department of Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined. However, this Department does not have the sole responsibility for environmental matters.

Now, my question to you, sir, having expressed the concern that you have and the concern which has been expressed by all of the witnesses here this morning, is: is there any better way, in your judgment, of assuring that something gets done about these problems than to contemplate a commission or a committee headed by the President, which would handle these problems?

Mr. TRAIN. I believe that at this time this is the most important step that can be taken and the most effective step. I thoroughly share the views that have been expressed in support of the proposed Environmental Quality Council to be chaired by the President. The fact that the President's leadership of the Council, his stated commitment to the environmental field is the single most important factor before us. No matter what mechanism were designed, if the President did not give it that sort of commitment, I think it would be a weak, probably useless act. Given the President's commitment, almost anything is possible.

Senator HANSEN. Well, I appreciate that response. I might just say that in my State of Wyoming we value very highly the importance of the esthetics of nature. As you know, we have quite a tourist industry in my State and at the same time we have some very important mineral resources, as the Secretary knows full well. These include oil, coal, uranium, to mention only a few. I might include oil shale also. And I have the feeling that it isn't going to be too many years until the growing demands of this Nation, coupled with the urgency of national security, will make imperative the further development of these resources.

Now, what we want to do in Wyoming—and I am sure what most Americans would hope to have done—is that we might develop some guidelines, we might explore and probe to see how best we can protect the quality of our environment and minimize the side effects that come about when we develop some natural resources so as to do both a minimum amount of damage to the environment and to nature as we find it untrammelled in our West.

Would it be your thought that under the direction and guidance of the presidentially headed Commission, as you speak of, that these are objectives that we could hope might be resolved in the best possible fashion?

Mr. TRAIN. Yes, sir; I think that certainly would be within the

jurisdiction of the Council. Perhaps Dr. DuBridge should speak to that, or could speak to it with more authority than I can.

Dr. DuBRIDGE. Well, that is certainly the whole intent of the present administration.

Senator HANSEN. Well, I thank you, Mr. Under Secretary, and you, Dr. DuBridge.

I have no further questions, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Hansen.

Senator Nelson.

Senator NELSON. Thank you, Mr. Chairman.

I have some questions I address to anybody on the panel. But first I would be less than candid if I didn't say that I am disappointed that in this proposal by the administration—I am pleased that the administration pays recognition to the fact, as they state that there is a serious environmental situation—but I don't think that the proposal made does, in fact, elevate this issue to a position of first priority in the Nation.

I haven't talked to all the representatives of conservation organizations, but those I have talked to share my disappointment in it, because for a number of years now the leading scientists from every discipline have been shouting their alarms about what is happening to the environment.

I remember when Rachel Carson's book came out, "Silent Spring," that she was attacked widely across this country by people saying, "Well, she was not a qualified scientist to make these kinds of judgments and draw these kinds of conclusions." Even some of our distinguished entomologists and biologists assaulted her on that ground.

I think that everybody who has watched what happened since Rachel Carson's book came out would have to say at this stage in history that what she said was an understatement of the issue, that it is worse than she asserted it to be.

Now, I think the problem is that we haven't had the political leadership in this country that really recognized and understood the environmental crisis in its broadest sense for what it really is, a threat to all living things on the planet, and it is, I think, exactly that. I think it is provable scientifically. I think it is approaching disaster. And I think we are moving very slowly and lethargically, if really at all, in terms of the big picture, to meet it.

It is an interesting commentary, it seems to me, that in that long presidential primary with some of the finest men in this country running for the presidential nomination in both political parties, that there wasn't a single candidate among them on either ticket who placed the environmental crisis as a high priority in his issues to discuss in the campaign.

I don't think there was a distinguished speech by any candidate for President that addressed itself to this critical issue. What that means, I think, is that they did not really understand either the significance or the urgency of the problem. Since they didn't understand the significance of what is going on, they couldn't address themselves to it.

Now, as I understand it, this proposal for an Environmental Quality Council—correct me if I am wrong—replaced the President's Council on Recreation and Natural Beauty, with some modifications in that

it limits the membership, the direct, immediate membership, to members of the Cabinet, the Vice President and the President.

I think that it would be fair to say that the total effect of the President's Council on Recreation and Natural Beauty wasn't very much. It did a little tiny bit. It didn't do more damage than it did good, but it didn't do very much good.

Dr. DuBRIDGE. I agree.

Senator NELSON. Now, the problem, if you take a look at it on an interagency basis—and I will ask a question in a moment, because I would like to have the name of one single interagency governmental group that ever had to deal with hard problems affecting the whole economy, affecting all the major industries in this country and all the municipalities that was ever a success, what decisions that they made that were a success, but I will ask that in a moment.

Taking a look at the Council, except for the Secretary of Interior, there isn't a single member of the President's Council who has as his fundamental primary responsibility a concern for environment, not a one of them—the Vice President, no; Secretary of Agriculture, no; Secretary of Health, Education, and Welfare, no; Secretary of Housing and Urban Development, no; Secretary of Interior, yes; Secretary of Transportation, no.

You might, by accident, appoint a Secretary of one of these agencies who by avocation, by concern over the years, has developed some interest and understanding of the problem, and maybe there is one here, but I don't know them. There was not in the last Administration, again, except for the Office of the Secretary of the Interior, there wasn't a distinguished spokesman on environmental affairs holding any one of those Cabinet positions.

So you start out with a group of people who, save one of them, has no primary responsibility in the field. I don't see how you can expect that when this responsibility is incidental at best, and when their background and history and understanding is meager, if any at all, how can you expect them to be deeply concerned, which is what they have to be, and deeply committed on the issue, which they have to be, and strongly and deeply motivated about the issue, which they have to be, about something that they understand vaguely or don't understand at all.

That is the first, it seems to me, fundamental weakness in the creation of this agency. I would be glad to have you comment on that at this stage, Dr. DuBridge.

Dr. DuBRIDGE. I think I would like to have Dr. Train comment on the first part of your remarks about the interest of the candidate, the presidential candidate, in this area.

Senator NELSON. I addressed my comments to all candidates. I am being very bipartisan about it. I don't think any one of them addressed themselves to the issue, but I may have missed something.

Mr. TRAIN. I will send you a copy of a speech made by Mr. Nixon on October 18, Senator, which I think was a very broad statement on these matters that did not receive very wide coverage.

Senator NELSON. I remember a brief story with some reference to it. I don't want to be unfair about this, but a speech on October 18, or July 1 wouldn't impress me. What would impress me about a candidate for President on this issue is whether or not he understood that this crisis is just as serious as the threat of an atomic war, if not more

so, just as serious as the deterioration of the cities, if really not more so. If a candidate hadn't been addressing himself to this issue for quite some years, I don't think he really appreciates what it is about.

I don't know how in heaven's name anybody could ignore speaking out about it if he understood it. I am not saying that these are bad people. These are some of the finest people in the country, but they did not have an urgent feeling about it. That is my feeling about it anyway.

Dr. DuBRIDGE. If I may respond to the second part of your remarks, you are correct in saying that it is not the exclusive responsibility of the Secretary of Transportation or any of these others to deal with environmental problems, but when you want action on environmental problems you don't just pick the experts. There are plenty of experts around Government who do have the devotion and knowledge and interest and the exclusive responsibility for them, but they are not the people who get the action.

Whatever the Government wants to do in this field or any other field, it must act through its existing departments and agencies. It has no other way of acting. I am not an action agency in the Government of the United States. I am only an adviser to the President, who can direct action through the existing agencies. The intention of this Council is to create an action agency whereby those who are responsible for action in fields affecting environment can get together, can be instructed by the President to carry out the actions.

Therefore, it doesn't make a bit of difference in one sense as to whether the Secretary of Transportation has any qualifications in the field of environment or not; he is responsible for the actions of that Department, and he can see to it that actions in this Department affecting environment are carried out if the President so directs him.

So it is not the qualifications of the individuals who are Secretaries, though I believe they are highly qualified and they all have a keen interest in this. It is a fact that they have at their fingertips the machinery of Government which under the President's direction and under mutual agreement can be put into operation and into action when the action is indicated. Do you see what I mean?

Senator NELSON. I understand that there is power there if the Secretary—

Dr. DuBRIDGE. That is the point.

Senator NELSON. That is right, there is power there if the Secretary, the particular Secretary, knows what to do with it. I have gone all through life failing to act on very significant problems because I didn't understand that it was significant, and so does everybody else. But I would ask you one question about a built-in handicap here.

One of the great environmental confrontations right now is the confrontation on the issue of chlorinated carbons, herbicides, pesticides, all of them that are slow, degrading, that have long half lives of 10 years or so. We have two Presidential commissions now which have made recommendations on this issue that are now approaching 5 years old. I think the first one was in 1965, in which the urging was that we make moves to ultimately move to take out of the marketplace the long, slow, degrading pesticides.

Nothing has been done about it, absolutely nothing. The evidence is accumulating dramatically all over this country. We have all kinds of research going on. But we are killing the Bald Eagle. We are killing the Bermuda Petrel. We are ruining Lake Michigan so we can't eat the

Coho Salmon. We are degrading the environment and destroying animals all over the world.

Dr. DuBRIDGE. But we are saving millions of dollars in crops and we are killing millions of mosquitoes that otherwise spread malaria and other disease. There are positive sides, too, sir.

Senator NELSON. Well, I will get to that specific issue in a second. But let me ask you this. You have a Secretary for instance, I understand from everybody I know that Mr. Hardin is a very distinguished, fine man. So was Orville Freeman, who was a good friend of mine. Any Secretary of Agriculture is in this box. He is on this Environmental Committee and he is convinced in his own mind that on balance a particular pesticide that is being used in agriculture is doing more environmental damage and more economic damage in the long pull than the year-to-year successes from the use of it, and this you will agree is entirely possible and likely.

Dr. DuBRIDGE. Yes, sir.

Senator NELSON. He sits there with his budget controlled by powerful members of the Agriculture Committee in the Senate and a powerful agricultural-oriented man, say, in the Appropriations Committee, and the same is true in both Houses. They have a constituency, whether it be cotton, corn, wheat, or whatever it may be, that uses this particular pesticide, and on a year-to-year basis it is very valuable to that crop, but it is doing grave damage to the environment.

Isn't that Secretary really handicapped to say what he thinks, to provide the leadership, to make the fight when he has to turn around and go back to a committee of Congressmen who have constituents whose economic life depends on this crop? Where is the freedom to act under that circumstance?

Dr. DuBRIDGE. I am afraid, Senator, you are indicting the entire Federal Government because whether the issue is environmental or anything else, the problems that you raise are there. The power of a Secretary at the Cabinet level is limited by the funds he has, the support he has from the Congress and from the President and from those who are concerned. You are putting your finger on a very important problem of how the Government gets anything done. And what you have said refers not only to environmental problems but to anything else, doesn't it?

Senator NELSON. No. I think it is—well, I don't say no unqualifiedly. I am saying what you have taken is the weakest link in the whole political problem and put him in charge of it. You have taken a Secretary who can't survive without that budget and having him trying to make recommendations and decisions in an area in which he is going to get slaughtered down on the House and Senate floors. It is quite different if you have an independent agency that is appointed and highlights the problem and makes the necessary propaganda and necessary education which that Secretary can't do.

And if you have a distinguished committee with scientists and others on it and they don't pull any punches and they point the finger at the problem and explain to the country that you may get x acres more of corn, and x bushels more of corn or bales of cotton, but on balance we are doing this damage to ourselves and the environment, and measured in terms of 10 years the damage is much greater and we must stop it and arouse the public interest to support the decision—a state-

ment that a Secretary of Agriculture probably wouldn't dare to make—that is the problem.

Dr. DuBRIDGE. But the President could make it. It is true that the President needs some support. I think Mr. Hickel can answer this question.

Secretary HICKEL. Senator, I was going to say that I think, in talking to the President and the various members of the Cabinet, that this is arrived at as being one way to expedite action. For example, I spelled out in my testimony the problem we have with the conservation and development on the North Slope. But the problem isn't wholly within my Department. Part of it is in the Department of Transportation.

Now, if we are in a meeting and we point out that problem, I would think the President would have the authority to make a decision right there, and I think it is that kind of action that we are trying to implement in this kind of a Council. We all know the weaknesses you point out. Those are inherent no matter what we do. But it will be a great advantage for us, those of us that want to accomplish something, to be able to spell out the problem, and if the solution is in some other Department other than ours, get a decision on it rapidly in a council such as this. And I think therein lies the strength of this Council.

Senator NELSON. Well, thank you, Mr. Secretary, but let me say this about it: Everybody here knows without saying that there are 300 hours of time demanded of the President for every hour that the poor man who holds that responsibility can give. I spend 10 percent of my time, I would say, in my office, with a full-time resource, recreation, and environmental man, I spend 10 percent of my time on it, and that isn't enough on these problems.

If you are really expecting the President to lead it, how much time can he spend on it? In all due respect, the President is just too harassed. I think it is unfortunate. He should not have to see all these people, but all Presidents do. They ought to spend their time elsewhere, but they have to see the President, and they take all of his time. I just quite frankly don't think the President can devote all that time to this problem.

But let me get back to something specific. Dr. DuBridge, you referred to DDT and its use as a disease vector. Of the tens of millions of pounds a year we are putting into the atmosphere, how many pounds of that are being used on a disease vector in this country?

Dr. DuBRIDGE. Yes. I don't have the figures on that. I agree that there is waste and improper use of DDT. But I only want to emphasize that in a very basic sense DDT has saved enormous crops and stopped enormous threats of disease.

I just talked with somebody from a small resort in a certain State not too far from here where they had locally prohibited the sale of DDT. Mosquitoes were invading the place and the summer resort qualities were suddenly being destroyed.

It is a kind of thing you get into both ways, that there are positive things. The point is that the management of DDT is terribly important, and I certainly agree with you there. It can be managed better to produce less deterioration of the environment. I have much hope that other kinds of compounds will be developed that are as effective as DDT as pesticides. I do not know the status of that development at the moment. It is certainly underway. But it is a problem of management.

As with all waste, it is impossible to get rid of wastes; they are a part of the human condition. We must manage our wastes in such a way as to produce the least harm.

Now, there are proposals for doing this, and I hope they can be implemented.

Senator NELSON. The problem seems to me to be, the issue really isn't how much good DDT has done. I think the issue in this respect is how much unnecessary damage has it done.

Dr. DuBRIDGE. Right, sir.

Senator NELSON. In my State, I recommended prohibiting its use. There is no question in my mind but what the damage is 10, 20, 50 times as great to my State as any economic benefit. I see no economic benefit in cities appropriating money to fog the suburbs and fog the area to kill all the mosquitoes and load the whole atmosphere with DDT. But we do it. In our State it is used for Dutch Elm disease and it hasn't stopped the Dutch Elm disease. It has killed the birds and it is used for killing mosquitoes, not as a disease vector, but for creature comfort.

I have been urging the Department of Agriculture for several years to cut back on the use of DDT. But how are they going to do it when they represent an economic interest group who use it and are powerful.

Dr. DuBRIDGE. This is a question of how do you get action, and one has to use the highest elements of Government to get action.

Senator NELSON. What is your view, what is the approach of this interagency group? We have a vast number of problems. Some of them we take by piece and some of them are big problems. Let me give you one. The Secretary of Interior expressed his grave concern about the building of an airport near the Everglades and the discharge of the gas and pollutants from the jet planes. Am I correct, Mr. Secretary?

Secretary HICKEL. Correct.

Senator NELSON. Into that large ecological complex. Let me ask a specific question. Increasingly, for 10 years, 15 years, every thoughtful person who is aware of this unique ecological complex in the Everglades, which is the only one really of its kind so far as I know in the whole world, fed by salt water through all the channels and canals in the South and fed by Lake Okeechobee from the North by fresh waters, we see the disappearance of the alligator, we see the imbalance being created in that great system by draining off the fresh water for irrigation of crops that we don't need—it will be a world tragedy if we let the Everglades be destroyed.

In my conversations in traveling through there with the people who live with this, the biologists and the others are alarmed, dismayed and sad about what is happening and the lack of action. Here is one of America's great assets. Nobody has really done anything about it but talk. Would you consider it a fundamental first priority to get right at this matter and try to do the things necessary to save the Everglades?

Secretary HICKEL. I will answer that and say that I don't know specifically what you have in mind or what the power of this Council would be in just saving the Everglades. I think you have the problem of the cooperation of the State of Florida. I think you would get that cooperation. It would undoubtedly take some legislation. I think we could get that. I wouldn't say that that would be our first priority. There are a couple of other areas that are just as great in magnitude, in my opinion, that are being destroyed at this time that should be protected.

But I would say this: I mentioned in my talk before you today that the Everglades is one of high priority. I used that as an example of what is happening. I don't know how to be specific at this point, other than to say that it has to be brought to the attention of someone, and whether we can undo what has been done is another story. But we can prevent further encroachment of what is there now.

Senator NELSON. Let me ask one concluding question: I think I had addressed it originally to Dr. DuBridge.

I know that all of you recognize when you deal with this problem, you deal with the whole political-economic structure; that is, you deal with the whole soap and detergent industry, because they are putting sulphates into the water and fertilizing them and destroying our water, and they ought to have to stop.

We know that we are dealing with the chemical industry, the automobile industry, we are dealing with every industry that puts pollutants into the air and pollutants into the water. There is hardly an industry in this country that is not involved here. It is tough, hard, political fighting. Down through the years the conservationists have lost almost all of them, maybe they win a little pittance here, but they have lost them to the timber interests and others all through history.

Now, here is an interagency committee. And my skepticism is that 2 years from now we will be back saying it didn't work. Is there an example in the history of this country of an interagency committee of this kind that had a responsibility as tough as this one that has been a success?

Dr. DuBRIDGE. The only analogy I know of is the National Security Council, if you want to call that an interagency committee. It is a setup exactly the same as this is. It has solved some pretty important problems in our national security area.

Senator NELSON. It got us into Vietnam.

Dr. DuBRIDGE. That came out of World War II.

Senator NELSON. I am not aware of any tough political decisions they made. If they were recommending more armaments, they had every industry and labor union and chamber of commerce in the country supporting them, because the military-industrial complex has got almost everybody on their side.

But where is the tough problem they solved where they had to confront some tough opposition?

Dr. DuBRIDGE. I think winning World War II was quite a tough problem.

Senator NELSON. Yes, but we didn't have to argue about whether we were going to fight Japan or Germany. We were unified. I am talking about a specific tough issue on any interagency responsibility which they had.

Dr. DuBRIDGE. I can only ask you what other mechanism solves problems as tough as this, what other mechanisms do you have?

Senator NELSON. Well, I think the proposals in the bills before the committee, though far from perfect, present a better formula, a better format, a better vehicle for undertaking to tackle this problem than what the administration has.

Dr. DuBRIDGE. It proposes a group of advisers to the President, which is fine. The President would have to act, or he would have to act

through his Cabinet members, and that is the Council that is being proposed.

Senator NELSON. It proposes that there be studies of the effects of all the pesticides and pollutants on the whole environment, that research be done, that what is being done be coordinated, that this independent body look at all these problems, make specific recommendations. They stand there as an independent body. Politically, they can't be pushed around.

You also involve your departments and agencies, including the President of the United States. But you give a primary responsibility to a group which is going to have it as their primary responsibility to tackle this question.

Dr. DuBRIDGE. Well, I don't—I guess I don't understand your conception of this. The Council proposed in the bill would be a very important advisory research body for recommending action to the President. If the President agreed with the recommendations, he would have to implement them through the Secretary of the Interior or the Secretary of Transportation or whatever other Cabinet officer was responsible for action in that field.

I don't know of any other mechanism which this Government has for getting action except by direction of the President through the proper Government agencies. Then the best thing for the President to do is to get the best advice, and the staff of this Council or the Council which you are proposing is a good instrument for giving advice, but it has no power to act.

Senator NELSON. Let me give you an example of what I am talking about, and it is recent. The National Academy of Sciences and the National Research Council has had the responsibility of reviewing the efficacy of all the drugs in the marketplace that were discovered prior to 1962. Now, for years—it is not any secret to anybody—prior to Dr. Goddard, for years the FDA was a weak appendage of the drug industry for all practical purposes in terms of regulating that industry.

The National Academy of Sciences has great distinction with the whole medical profession of the country. The National Council on Drugs—they have been evaluating and coming back with tough recommendations—and the Director of the FDA is able to stand on this independent body's recommendations. They are unassailable as a distinguished independent body.

If it weren't for that and the FDA tried to do this alone, the drug companies would fold them up in 24 hours.

That is what I am talking about, an agency which can't be folded up. Thank you.

The CHAIRMAN. Senator Stevens.

Senator STEVENS. Thank you, Mr. Chairman.

I have just two questions. First, a statement.

My attention has been called to a statement made on October 19, 1968, by the then candidate, Richard Nixon, in answer to a comment made by Senator Nelson. I think it is a very good statement, an outline of 12 points that the President intended to pursue if elected.

He said :

We are faced with nothing less than the task of preserving the American environment and at the same time preserving our high standard of living.

It would be one of history's cruelest ironies if the American people, who have

always been willing to fight and die for freedom, should become slaves and victims of their own technological genius.

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning, and a piecemeal approach to problems of natural resources.

Mr. Chairman, since I think this statement, called "A Strategy of Quality: Conservation in the Seventies" directs itself to this problem, if you would permit me to do so, I would like to put it in the record of this hearing.

The CHAIRMAN. The statement by the President will be included in the record at this point, or at the conclusion of your remarks, whichever you like.

(The statement referred to follows:)

REPUBLICAN NATIONAL COMMITTEE,
Washington, D.C., October 19, 1968.

RICHARD M. NIXON, REPUBLICAN PRESIDENTIAL NOMINEE, RADIO ADDRESS—
CBS, OCTOBER 18, 1968

This is a time when technological advances have given us material benefits beyond the dreams of all other nations and civilizations, and yet we are confronted with an important and perplexing problem.

Obviously we must make more use of our natural resources to maintain our high standard of living.

But the more inroads we make upon our land and water and air, the less we are able to enjoy life in America.

We need lumber to build our homes; but we also need untouched forests to refresh our spirit.

We need rivers for commerce and trade; but we also need clean rivers to fish in and sit by.

We need land for homes and for great industrial plants; but we also need land free from man's works, land on which a man can take a long walk, alone, away from the pressures of modern life.

We need the dynamic productivity of industry; but we also need fresh air to breathe.

We need the raw natural materials with which to create the products we desire; but we also need large areas of land in which a man can re-create himself, areas of true recreation.

Today, "Natural Resources" has a double meaning. It means not only those riches with which we have been so abundantly blessed for our economic and technological advantage, but also those same riches as they exist for our psychological and emotional and spiritual advantage.

We must conserve and use our natural resources because of the numerous things we can do with them.

We must also conserve and use them because of what they can do for us.

We need a high standard of living but we also need a high quality of life.

We need not only more uses for our natural resources, but also better uses.

We need a strategy of quality for the seventies to match the strategy of quantity of the past.

I was born and spent my early years in the western United States and during my life I have travelled across this country many times. I have never ceased to be inspired by the variety and complexity of the American landscape.

But now man and his works are in places which only a few years ago were untouched by civilization, and now, as I fly across the great mountains and deserts, high above the green forests and winding rivers, new questions arise:

Can we have the highest standard of living in the world and still have a land worth living in?

Can we have technological progress and also have clean beaches and rivers, great stretches of natural beauty and places where a man can go to find the silence and privacy he is unable to find in our increasingly urbanized daily life?

Will future generations say of us that we were the richest nation and the ugliest land in all history?

Are we doomed by some inexorable thing called progress to give to our children a land devoid of beauty, empty of scenes of natural grandeur, filled with gadgets and gimmicks, but lost forever to the wonder and inspiration of nature?

These are the important questions. They deal not with one part of American life, but with life in America itself.

We are faced with nothing less than the task of *preserving the American environment and at the same time preserving our high standard of living.*

It would be one of history's cruellest ironies if the American people, who have always been willing to fight and die for freedom, *should become slaves and victims of their own technological genius.*

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning and a piecemeal approach to problems of natural resources

It is a battle which will have to be fought on every level of government, not on a catch-as-catch-can basis, but on a well thought-out strategy of quality which enlists the aid of private industry and private citizens.

At the beginning of this century, Theodore Roosevelt called upon the American people to preserve the natural heritage. The time has come to renew that call, and to bring to a program of conservation the techniques of the seventies.

Modern technology and old-fashioned pride in America can and must combine to win the battle for our environment.

The technological know-how which will help to place man on the moon can be used to help him keep areas of untouched land, clean rivers and streams and pure air on earth.

I say we can have technological advances and natural beauty. I say we can have fresh ideas in industry and fresh air in our cities.

I say we can have the greatest industrial might in the history of man and have places where man's works seem as distant as the stars.

How can we pursue this strategy of quality?

First, we must re-examine all existing Federal programs with the aim of coordinating them. Under the Eisenhower Administration, such acts as the Federal Water Pollution Act channeled federal funds through a single source eliminating duplication and red tape. There is a grave need for such coordination and cooperation on every level of government, and especially between federal and state and local government.

Second, we must make better use of computer technology which can swiftly and efficiently help us to determine the nature and probable effect of existing balances of mineral resources in our own country and throughout the world. Such aid can also be used in helping officials to create multiple use of lands and explore the possibilities of ocean resources.

Third, we must create a national minerals and fuels policy if we are to maintain production needed for our economy and security. The strategy of quality looks upon the oil well and the mine as vital parts of the American economy and of American power. There is no contradiction between preserving the natural beauty of America and assisting the mineral industries which are the primary sources of American power. Economic incentives, including depletion allowance, to encourage the discovery and development of vital minerals and fuels must be continued.

Fourth, federal laws applicable to public lands and related resources should be brought up to date. These lands will be managed to ensure their multiple use as economic resources and recreation areas.

Fifth, although most of our nationally owned land is in the West, most of the population is in the East. We must work in cooperation with cities and states all over the country but especially in the industrialized East—in acquiring and developing green space. The rugged grandeur of mountains a thousand miles away means nothing to a city child who is not able to get to them. Our cities must not be allowed to become concrete prisons. The creation of national parks and outdoor recreation areas near the large cities is as vital a part of the strategy of quality as the preservation of the great forests and rivers of the West.

Sixth, every effort must be made to purify our rivers and streams and air. Last Sunday in a paper dealing with the pollution of our cities, I outlined a program of anti-pollution measures. Although the paper dealt specifically with problems of our cities, the program is applicable in many parts to the entire problem of pollution. Without repeating the entire six-point proposal, I will mention two key points:

Regional and federal approaches to the problem must be perfected and expanded since air and water pollution spills over traditional political boundaries.

The federal government should be the example of the highest standards of pollution control and all federal facilities should eliminate pollution if we are to expect the rest of the nation to follow suit.

Seventh, water and soil conservation and development programs must be coordinated. At the present time, four Cabinet departments are involved in water resources: Health, Education, and Welfare, Interior, Defense and Agriculture. It often happens that different agencies proceed in contradictory programs concerning the same problem. We must improve water resource information, including an acceleration of river basin commission inventory studies.

Eighth, we must investigate the possibilities of desalination programs. A limited supply of water is already one of the pressing problems in the world and could become a severe problem in America. A breakthrough in desalination methods could make fresh water available to coastal and surrounding areas throughout the world. Atomic desalination offers an exciting possibility of greater output at much lower, perhaps even competitive prices. We must stop talking about the future of water preservation and development and start doing the research and studies which will bring the future to us.

Ninth, we must intensify the investigation of ocean resources. The ocean lies as close as the nearest beach, but in its mystery and promise, it is as distant as the fabled lands of old. We must redouble our efforts in developing oceanography and new methods of harvesting resources from the sea. Vast stores of minerals lie beneath the ocean floor waiting for the ingenuity and courage and determination of man to extract them. The Seventies can be not only the decade when Americans reach for the stars but when we dive for the riches of the sea, not the traditional sunken treasures, but riches such as protein to feed the world.

Tenth, we must improve our forestry practices, including protection and improvement of watershed lands. National forests are as important for recreational purposes as for preservation of wildlife, watershed control and timber production. We must extend methods of fire control in forests by fire pre-suppression and control work. Public and private agencies must work together to reduce the hazards of fire, pestilence, and disease. Here, as in every area of conservation, coordination of effort is of utmost importance.

Eleventh, we must act to preserve and maintain our wildlife. Already 24 birds and 12 mammals native to the United States and Puerto Rico have become extinct. This is only the beginning: 30 to 40 birds and 35 mammals are currently threatened with extinction unless efforts are made to acquire and maintain sufficient habitats. The preservation of fish and wildlife will require research, more land for sanctuaries, restoration of clean waters, conservation of wetlands, better watershed management, and cooperation between federal, state and private institutions.

Twelfth, we must make our recreational areas the best in the world. A quarter of a billion people, more than the total population of the United States, visit national parks and monuments annually. The average annual growth in visits to outdoor recreation areas has been ten percent a year.

We are now becoming more aware of the problem emphasized and rigorously attacked during the Eisenhower Administration—overcrowding of our national parks. We have succeeded beyond success in attracting people to our parks. If we continue the present rate of increase, we will soon face everyone with the crisis of overcrowded parks and recreational areas, which already exists in many places.

Again, a unified cooperative program is immediately needed if we are to save our outdoor recreation programs and develop new ones. A recreation coordination act can provide integrated planning for recreation in all new federal resources programs.

Conservation cannot be successful unless there is an on-going commitment, based on sound conservation principles, by the various government and private agencies.

We cannot afford a policy of conservation which promises much but delivers little.

We cannot afford a policy of conservation which jumps from problem to problem eager to seize on the problem most recently publicized.

Our single goal in this field is the enhancement of the life of every American.

Americans, every one of us, must be able to look at all of America and say: This is my country, not only its material power but its natural glory.

Not only the dynamic sound of its industries but the silence of its great forests.

Not only the march of technological progress, but a casual stroll along a beach at night.

Not only the material benefits of today, but the deeper, richer gifts I can leave my children, gifts of natural grandeur and the solitude which is so necessary for the great search to find one's self.

The boy sitting on the steps of a ghetto tenement deserves and needs a place where he can discover that the sky is larger than the little piece he is able to see through the buildings.

This is our country.

The next administration will do everything it can to keep it great and to keep it for those who come after us, a land of majesty and inspiration, truly the most powerful and most beautiful country in the world.

Senator NELSON. Mr. Chairman, may I make a comment on that?

The CHAIRMAN. Yes.

Senator NELSON. I just want to make it clear that my remarks were directed to the fact that none of the candidates in either party considered this issue of fundamental first priority in their political speeches. I didn't select out the President or anybody else. It was true of all of them. I simply say if he did give a speech as late as October 19, it really wasn't a fundamental priority, but I make the same criticism of all of them.

The CHAIRMAN. Yes, I understood Senator Nelson's statement that his comments went to all candidates on both tickets.

Gentlemen, the real question is not the past but what we are going to do from here on out. I think all of us have been neglectful. I know that I have not spent as much time on this problem as I would have liked to have spent. I think it is in that spirit that Senator Nelson would like to see us go forward on this problem.

Senator STEVENS. Thank you, Mr. Chairman. As you can tell, I lost my voice up in Alaska. Mr. Secretary, I am interested in your proposal of your announced task force, and I want to commend you on that. You read, I am sure, as a matter of fact we read together, that recent Sports Illustrated article on the confrontation in the Arctic. Have your people in the Department expressed concern over the development to date or over the potential development there?

Secretary HICKEL. Yes, Senator. That is one of the reasons that we have come up with this task force. The problem is, How can we act soon enough?

Senator STEVENS. Well, I would encourage you to act as soon as possible so that we don't get the roadblocks in the way of Alaska's development that might occur if people didn't understand what is going on up there.

I was interested, Mr. Chairman, in the fact there is only one road in an area the size of California, as you know, and it seems to have attracted a great deal of attention, even though it is just a temporary winter road. And being one of those who would like to see a permanent road in there, I would urge you to have your task force ask as soon as possible to coordinate with these conservation groups as the chairman suggests so that there is an understanding of the problem there and the need for that transportation. And I think if that comes, we can preserve the environment there and achieve the goal that we all seek, and that is development of those resources.

Secretary HICKEL. Well, Senator, that was the reason for our requesting a corridor in 1967, so we could contain, so to speak, these

various facilities that would have to go through that country and not be scattered every which way.

And as you know, Secretary Udall, at our request, set aside that corridor in 1967. But the problem is beyond that.

Senator STEVENS. Yes.

Secretary HICKEL. And we need some help.

Senator STEVENS. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Stevens.

Senator Bellmon.

Senator BELLMON. Thank you, Mr. Chairman.

I would like to ask a couple of questions, first of all, of Secretary Hickel.

In the letter from Secretary Train, in the last paragraph on the first page, you said that "The Department of the Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined."

Now then, in the letter you said that you would like to have the authority—and I frankly think the Department should have it—and now this legislation we are considering, S. 1075, as well as the other bills, as well as the proposal from the President, would set up a council or a commission to share this authority with you.

Now, I served for a time as Governor of a State and as Governor I was a member, either official or ex officio, of probably two or three dozen boards and commissions, and ordinarily all I knew about what happened was when we got the annual report, which was usually so thick we couldn't read it anyway. And I wonder if either of these councils would really have the time to devote to the problem that is involved and whether it might not be needed to do the thing that Mr. Train has recommended here and assign these responsibilities to you as Secretary of Interior and to give you the mechanism you need to enforce the rules and regulations.

Dr. DuBridge, you made a comment in your remarks about how the State of California left \$75 per automobile stand between them and reduction of the smog hazard in Los Angeles. At the present time what individual, what official or what agency in the Federal Government has responsibility for coping with a question like that?

Dr. DuBRIDGE. In the Federal Government?

Senator BELLMON. Yes.

Dr. DuBRIDGE. HEW, I guess, in the agency.

Senator BELLMON. HEW has responsibility—

Dr. DuBRIDGE. For air pollution.

Senator BELLMON. They can say to the car manufacturers that "You will not sell a car unless it has the proper device on the exhaust"?

Dr. DuBRIDGE. I think they would be the implementing agency, but legislation would be required. There is no legislation that empowers them to do that particular thing at the moment.

The CHAIRMAN. Senator, air pollution control is in HEW and the water pollution is in Interior. I would like to see, frankly, both of them in Interior, because one of the solutions for the water pollution problem, for example, is to use cooling towers. This creates an air pollution problem. So you go from one jurisdiction to the other trading

off on a problem. They should be in one place. That is something the President will have to decide.

But might I just ask one question before Dr. DuBridge leaves?

Senator BELLMON. Yes.

The CHAIRMAN. I think it is important for the committee here, Doctor, to find out what is being done in the various agencies on environmental problems. The committee staff is preparing a questionnaire which will give the committee as much of this information as we can get. I wonder if your office and your staff people could work with the committee in collecting, analyzing, and interpreting some of this information.

Dr. DuBRIDGE. Yes, certainly.

The CHAIRMAN. I assume there is no problem on that.

Dr. DuBRIDGE. No.

The CHAIRMAN. All right. Fine.

Secretary HICKEL. I can answer the question you asked me, Senator.

Senator BELLMON. All right, go ahead.

Secretary HICKEL. Basically, I think the President made a decision that he could get action faster with this Council, and I would hope that most of the studies and research that we now have within our Department on environment would be made available to the Council. We would do that regardless of what agency was involved. And I think what you asked me, whether we could do it, if it were assigned to us as a direct responsibility, yes, we could, but I think it was the President's opinion that if the problem were in some other Department, then he could say, let's get it done and let's make a decision, and that is the reason for the Council.

Senator BELLMON. Mr. Secretary, again referring to some previous experience in Government, usually a commission is the very worst way to get anything accomplished. If you have an individual and can say to this individual, "this is your job and we want results," you can expect results. But if you give it to a commission, you usually can expect procrastination and indecision.

Do you feel that a council of this kind could ever really come to grips with some of the problems you face in your area?

Secretary HICKEL. I think you hit upon a good point. If I have a problem that must be solved in a hurry and it involves another department, I think, regardless of whether we have a quasi-council or a full council, we could get a decision in a hurry through the President.

Senator BELLMON. Well, have any of the officials in Interior ever considered the additional responsibilities that you need to cope with the problems of environmental control?

Secretary HICKEL. Well, if all we had to do was make the decision not to talk to anyone else, we could probably do that, but the whole problem of Government, as has been mentioned so clearly here, is how can we get to the problem fast enough. And I see this very clearly in so many areas. And some of it requires legislation.

I think what we have to do is to say this is a problem, what is the requirement for action. If it is legislation, let's get the legislation. If it is solved by Executive decision, let's solve it by Executive decision. And this Council would have as high an executive body as possible in this country, with the President chairing it, and I think that is the intent. We are not going to say we won't make mistakes. We are not going to say it is going to be absolute, or will even be the total solution.

But it is a step, and I think if Congress could give the Council their guidance, what they would like for it to do, that that would be helpful.

Senator BELLMON. I would like to associate myself with the comments that our chairman has made, and that is that I feel that Interior should probably have primary responsibility in this whole field of environmental control, or for improving our environment. And, Mr. Chairman, if it is in order, I would like to suggest that the Secretary prepare the proposals he feels that are needed to give Interior the muscle they have to have to move in these areas.

The CHAIRMAN. Yes. We can request this individually, Senator. The Secretary, of course, has to follow the directive from the Bureau of the Budget, which acts for the President, and the President will have to make the decision. In order to protect the Secretary, I want to make that statement.

Secretary HICKEL. I appreciate that.

The CHAIRMAN. I think the Department, Mr. Secretary, will supply Senator Bellmon and the committee any information that we need and any drafts that we need. It will all have to be, however, subject to the understanding that it will not necessarily represent the views of the Secretary until they have been cleared with the Bureau of the Budget and the President. Is that right?

Secretary HICKEL. Thank you, Mr. Chairman. I appreciate that. And we will get that to you, Senator.

Senator BELLMON. Thank you.

The CHAIRMAN. Thank you, Senator Bellmon.

Thank you, Secretary Hickel, Dr. DuBridge, Secretary Braman, and Secretary Train. I think this has been a very helpful morning, and I want to compliment each and every one of you for your contribution to this discussion.

We will resume at 2:30 this afternoon when we will open with Senator Tydings, former Secretary Udall, and conservation witnesses.

(Whereupon, at 1 p.m., the committee recessed, to reconvene at 2:30 p.m., this same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

As we resume this afternoon, the first witness is Dr. Lynton K. Caldwell, professor of government, University of Indiana. Dr. Caldwell has done a lot of outstanding work in the area that is under discussion.

I want to say in behalf of the committee that we are particularly in his debt for the support that he has given to the previous studies by the committee, and we are honored and pleased to have him with us this afternoon.

I want to say that your background statement, which I read last night, is excellent and very, very helpful in putting the problems that we are discussing today in proper perspective. I want to compliment you in getting to the basic issues involved, which you did in the first sentence of your paper.

STATEMENT OF LYNTON K. CALDWELL, PROFESSOR OF GOVERNMENT, UNIVERSITY OF INDIANA

Dr. CALDWELL. Well, thank you very much, Senator and members of the committee.

I will make my remarks rather brief. It may well be at this stage in the hearings that more will be gained by interchange, questions, and so on, than by an extended statement, particularly in view of the longer written statement which I have prepared for the committee.

The CHAIRMAN. The entire statement will go in the record. Why don't you make your own paraphrase of the paper as you see fit, giving us the benefit of the highpoints.

Dr. CALDWELL. Good. It seems that in the morning session here there was a good deal of agreement here as to what the issue is. That issue, as I believe we saw it, is the continued viability of the life support system of the United States. That is to say, of the air, water, land, and living things upon which the health and happiness and prosperity and, indeed, the survival of the American people depends.

It is generally agreed that this is high priority, at least in theory. But it is less certain, I think, of whether it is, in fact, high priority.

Senator Nelson noted this morning that there was some doubt, at least in his mind, that the environmental situation was being accorded the degree of attention that the circumstances required. Senator Bible remarked that he was disturbed about the inadequacy of funding for the land and water conservation legislation.

I think as a matter of political history in the country we have found that public policy was pretty generally measured by fiscal policy. It is not only what we say we think is important that is evidence of our concern, but what we do about it. Particularly when what we do about it has to be translated into the allocation of the hard-to-get tax dollars. And when this requires decisions as among many priorities, there are very few people that will argue that the environmental issues before us are unimportant, very few that will argue that they are not high priority. But we can have many high priorities.

I think one of the questions that clearly is before the committee is how high this high priority is in relation to other things.

Now, I would argue, Senator Jackson, that this issue is a major issue, indeed the major issue of our internal security, that it is no less an important issue to our internal security than military defense is to our external security. This issue of environmental degradation affects all of the American people regardless of income or condition, or race, or whether they live in the cities or whether they live in the rural areas; we are all affected. This cuts across all categories of American society. We are all, so to speak, travelers, as Adlai Stevenson said a number of years ago and as President Nixon in effect reiterated in his inaugural address, in what amounts to a spaceship, and we cannot afford to place, it seems to me, a priority here any less than the priority that we would place on the very security and survival of the country.

There is certainly accumulating evidence—and this has been referred to in the session this morning by a number of Senators and a number of the witnesses—as to the effects that science has found in the impact of population and technology upon the environment.

The effects of environmental deterioration have been documented in

a large number of Government reports and indeed they are visible all around us. But I think our difficulty in dealing with the problems of the environment in a policy sense is that they are really due to our American way of life.

As Senator Allott observed this morning, many of our customary ways of thinking and organizing in Government are not adequate to deal with the environmental conditions that have emerged from the pressures of population and technology.

Indeed, the problem of environmental policy is a broad and complex one. It is broader than science. It is broader than traditional conservation or health or economics and aesthetics. It is no less broad, I would contend, than those issues to which we are accustomed to considering under the title "National Defense," "National Security."

For these reasons, I believe that our approach to problems of the environment should be based upon a sound appraisal of the actual circumstances confronting us today.

In principle, the provisions that are incorporated in Senate Bill 1075 and in similar measures, particularly those introduced by Senators Nelson and McGovern, are required if we are going to launch an attack on the growing threat to our environmental security. The very fundamental character of this issue, its breadth, its complexity, and its ramifications, require, in my judgment, congressional consideration and action.

The Constitution of the United States places on the Congress a responsibility for the formulation of national policy that it cannot avoid, and for this reason, Senator Jackson, I think I differ with the position that was suggested by some of the witnesses this morning, that this is an issue that could be dealt with really by the administration independently of the Congress, although I must say I agree heartily with the observation of Dr. DuBridge that the administration would welcome a statement of policy by the Congress.

But I think the Congress needs to do more in the shaping of domestic policy, and particularly the Congress is certainly co-equal in our constitutional system at present. I sometimes feel that in the past 20 or 25 years in which our country has been so heavily engaged in military exigencies and concerned with foreign affairs, we have lost much of the important leadership role that the Congress traditionally has played in the framing of legislation from the very beginning of the Republic. The President of the United States has had a nearly exclusive leadership role under the Constitution in the area of the negotiation of foreign affairs and as Commander in Chief of the Armed Forces, but only in these two areas does the Constitution place that unique responsibility on the President.

On matters of domestic legislation, the President must share with the Congress this role of policy determination. And I think for this reason that the Congress cannot avoid consideration of a problem so major as one which could be described as the survival of the United States. Maintenance, for example, of its life support system. If there is indeed an environmental threat that is as serious, as important to our internal security as our Military Establishment, as our foreign policy and Military Establishment are designed to cope with, deal with in foreign policy, then it seems to me the responsibility of the Congress is quite clear—it must act.

Now, we have heard discussion of the various ways in which the problem that we agree is important might be dealt with. The proposal that has been set before the committee by the witnesses for the administration has been that the President personally is prepared to play a major role in the shaping of environmental policy.

Now, this is certainly a highly desirable and encouraging thing, but I think many will ask, Can the President realistically be expected to play for a very long period of time and consistently a personal role in the consideration of the basis of environmental policy and in the alternatives to be considered?

Are we making the Presidency unmanageable?

There is a growing feeling among students of public policy in the United States, and I think among citizens generally, that we are increasingly placing upon the Office of the President responsibilities and burdens that no human individual can be expected to manage.

I bring to your attention by way of illustrating this concern an editorial by Normal Cousins, the editor of the Saturday Review, of about a year ago, April 13, 1968, in which he asks in an editorial, "Is the Presidency manageable?" Now, this concern, I think, is one that has been recognized by Presidents in the past and by President Nixon. He has, for example, according to a report, established a task force to consider the organization of the executive branch.

And it would follow, it seems to me, that action taken with respect to so major an issue as the environment should not impose upon the President personally responsibilities that are, in addition to those that he now has, nor should the President, I think, be encouraged to accept these responsibilities, particularly given the tremendous demands upon his time and attention which continue in the area of foreign policy and national defense.

But I would say that the problem of restructuring the Government and of designing new instrumentalities for public policy is not really a question of whether we should have a plan which is proposed by the administration or whether we should have a plan that is proposed by the Congress. It isn't a question, it seems to me, of either/or at this point. I think few would disagree that we need the various inputs, various concerns, and a kind of clearing-the-decks for action that Dr. DuBridge and others this morning felt were important.

We need the services that can be provided by the Office of Science and Technology, by the President's Science Advisory Committee, by the Federal Council of Science and Technology, by the Department of the Interior, and other agencies.

But in addition, I am sure that we need the involvement of the Congress. And we need somewhere in the structure an independent forum and focus for a review of the Nation's condition of the environment, a body that is capable of making assessment not only of our current conditions, but of presenting alternatives for coping not only with the problems that we know about that are before us now, but with problems that we have yet to face.

I might suggest that a great deal of money would have been saved and a great deal of damage would have been avoided in the case, for instance, of the detergent industry if we had had the foresight to recognize the effects of foaming detergents in water. We cannot afford to continue, really, to learn from experience.

And the question that I am sure which is in the minds of many people that have been skeptical about the full utility of a Council for the environment consisting of Cabinet officers is whether that body would be in a position to give the time and the attention to the longer range environmental needs of the Nation. Members of the Cabinet are extremely busy people. They have special responsibilities growing out of their own positions as heads of major departments. It seems to me quite unlikely that such a body would be by the very nature of things inclined to make decisions for itself by probing into problems that we have not already encountered.

So it would be my position that the proposals embodied in Senate bill 1075 and in similar bills that have been introduced by a number of other Senators ought to be given very careful consideration. At least the Congress should proceed to consider the advantages to be gained by an independent Council. And I move to ask where we would be in our management of our economic affairs if in 1946 we had attempted to accomplish the objectives of the Full Employment Act without an act, without a statement of policy. And Senator Jordan read this morning such a statement to us. If we had the statement of policy, how far would we have moved to implement it if we had not had the Council of Economic Advisers?

Now, one could argue, it seems to me, back in 1946 that we did not need an independent Council of Economic Advisers; that in order to get action what we really needed were the principal executive officers responsible for economic policy to form a Council, and the President could have named a Council consisting of the Secretary of the Treasury, the Chairman of Federal Reserve Board, and the Director of the Budget, and this could have been the Council of Economic Advisers. Well, it is, of course, conjecture to ask what would have happened in event that we had elected to pursue that course, but I would think it an optimistic view that we would have got the results that we have had. We have avoided a major economic depression in the period since 1946.

My final observation has to do with the need for a statement of policy. I think we have here two elements that were clearly brought out in the discussion this morning. One of them had to do with the nature of an implementing body in the executive branch. The question was whether that implementing body should be composed of members of the Cabinet. And I might suggest in this connection that the President, of course, can call together members of his Cabinet any time he wishes in any combination he wishes. One could argue in a sense that a special Council composed of certain Cabinet officers would be in any way redundant because they are at the President's disposal. He is free to call a Cabinet meeting at any time he wishes to do so on the problems of environment. But the question then of the implementing body is one upon which there does seem to be a difference at this point between the position taken by the administration and the position advanced in the several bills before this committee.

The other aspect of the issue has to do with a statement of national policy. And, I would say, this is the more fundamental decision, really, of the two at this point. It becomes very difficult for us to say how we should restructure the executive branch of the United States to deal with problems of environment until we know what kind of a policy this country intends to pursue.

Now, this leads me to make, really, two observations about the policy. First of all, I was happy that Dr. DuBridge agreed, and Secretary Hickel agreed, that such a policy would be welcomed by the administration. I have already suggested, it seems to me, that the Congress indeed has a responsibility to develop and could enunciate such a policy. But beyond this, I would urge that in the shaping of such policy, it have an action-forcing, operational aspect. When we speak of policy we ought to think of a statement which is so written that it is capable of implementation; that it is not merely a statement of things hoped for; not merely a statement of desirable goals or objectives; but that it is a statement which will compel or reinforce or assist all of these things, the executive agencies in particular, but going beyond this, the Nation as a whole, to take the kind of action which will protect and reinforce what I have called the life support system of this country.

Let me give you just a few illustrations of what I mean, by policy-forcing or operational aspect of a policy statement. For example, it seems to me that a statement of policy by the Congress should at least consider measures to require the Federal agencies, in submitting proposals, to contain within the proposals an evaluation of the effect of these proposals upon the state of the environment, that in the licensing procedures of the various agencies such as the Atomic Energy Commission or the Federal Power Commission or the Federal Aviation Agency there should also be, to the extent that there may not now exist fully or adequately, certain requirements with respect to environmental protection, that the Bureau of the Budget should be authorized and directed to particularly scrutinize administrative action and planning with respect to the impact of legislative proposals, and particularly public works proposals on the environment.

Now, these are what I mean by action-forcing or operational measures. It would not be enough, it seems to me, when we speak of policy, to think that a mere statement of desirable outcomes would be sufficient to give us the foundation that we need for a vigorous program of what I would call national defense against environmental degradation. We need something that is firm, clear, and operational.

I think, perhaps, Senator Jackson, that these remarks are sufficient at least to make clear the position that I take with regard to the legislation before the committee, but I would be happy to amplify on this or to answer such questions as you or the members of the committee might care to put to me.

The CHAIRMAN. Well, Dr. Caldwell, that is an excellent presentation, needless to say. I think you have been most constructive. I have been concerned with the inadequacy of the policy declaration in the bill that I introduced. Obviously, this is not enough. It does, however, provide a predicate from which to launch at a discussion as to what is required and as to how we should proceed.

I would like to pursue this policy matter for a moment. I agree with you that realistically what is needed in restructuring the governmental side of this problem is to legislatively create those situations that will bring about an action-forcing procedure the departments must comply with. Otherwise, these lofty declarations are nothing more than that. It is merely a finding and statement but there is no requirement as to implementation. I believe this is what you were getting at.

Dr. CALDWELL. Yes. Exactly so.

The CHAIRMAN. I am wondering if we might not broaden the policy provision in the bill so as to lay down a general requirement that would be applicable to all agencies that have responsibilities that affect the environment rather than trying to go through agency by agency.

I think the immediate example that comes to my mind and has to yours already by the statement is that the Atomic Energy Commission, in granting permits or licenses in connection with nuclear power-plants, should be required to make an environmental finding.

This, of course, might be applicable to the Federal Power Commission. One can go on down the list of agencies. I am trying to avoid a recodification of all of the statutes. Instead, maybe the Bureau of the Budget could be given the authority to deal with this problem in a broad discretionary way in which the agencies would be required both in quasi-judicial proceedings and in legislative comments to the Congress to meet certain environmental conditions. Would this make sense?

Dr. CALDWELL. I would certainly agree with that, Senator Jackson.

The CHAIRMAN. You see the problem that we are faced with: If we try to go through all of the agencies that are now exercising certain responsibilities pursuant to law in which there is no environmental policy or standard laid out, we could be engaged in a recodification of the Federal statutes for a long, long time.

But maybe there is a way out of this through a directive and a delegation to the Bureau of the Budget of authority which they could in turn exercise prudence and discretion in requiring that the environmental policies and standards be adhered to in connection with the responsibilities of the Federal Establishment.

Dr. CALDWELL. I agree with that. And this is another reason I think that we need congressional action on this. We need by resolution or statute, I think, specific action on the part of the Congress, because what we are talking about here in some cases is modifying or amending existing mandates to the agencies.

Now, in one sense we may say the President has a certain ability to do this, but I think when we are talking about, in fact, legislative mandates that have been enacted by previous Congresses there would be a good deal of resistance in the agencies to interpretation by the Bureau of the Budget or the White House that certain things should be taken into account unless this was also reinforced by congressional action.

The CHAIRMAN. Well, for example, the President certainly couldn't intercede in a quasi-judicial proceeding and advise, whether it is the Federal Power Commission or the Interstate Commerce Commission, or the AEC, when it is exercising its quasi-judicial responsibilities as to what standards they should follow.

As a matter of fact, they could get into litigation in court, and it would certainly be no defense for the agency to claim that they were acting pursuant to an Executive order; they would have to point to statutory authority which gives them the authority to deny a permit or a license under a certain set of circumstances.

Dr. CALDWELL. This is quite true. We are, I think, misled as to the power of the President, because we so often focus upon his powers in the field of foreign affairs and military policy.

Now, on domestic issues, the President is by no means the all-power-

ful figure that he is when we step beyond the continental limits of the United States. And I think you may recall that a President of the United States, Woodrow Wilson, when he was a college professor, wrote a book called "Congressional Government."

He wrote this after a long period following the Civil War, in which the United States had not had a great deal of foreign involvement, and this was a period in which the power of the Congress in relation to the Presidency was very great. And as we turn increasingly, as I am sure we must, to solve some of these domestic problems that we recognize in the United States, I think we are inevitably going to encounter once again the power, the influence, and the leadership of the Congress. And it seems to me we ought to face this realistically, that if we fail to be instructed by history, by the experience of previous Presidents, in attempting to deal with certain domestic issues without benefit of the support of the Congress, I think we would make a serious mistake which would be most unwise on so important an issue.

I would like to make another remark also with respect to the difficulty of conceptualizing the term "environment." Dr. DuBridge spoke about this at the beginning of his remarks this morning. One of the things it seems to me that we really constantly need to keep in mind here is when we speak of the environment, we are not really talking about the things out there, about all of the forces really that impact upon people. This is a part of the environment. But when we speak of the environment, basically, we are talking about the relationship between man and these physical and biological and social forces that impact upon him. A public policy for the environment basically is not a public policy for those things out there. It is a policy for people.

There are organizations and individuals who are so concerned about the preservation of the aesthetic and natural history, scientific assets that we have in our environment. They are called preservationists. Now, I don't disparage this term. I like to think of myself also as a preservationist, a preservationist of people. And really, this is what we are concerned about. If we conceive of this environment, you see, as the life support system of the Continental United States, we are talking then about not only a policy that affects these physical things but basically we are concerned about them because they make all the difference in the world to our own prosperity, happiness, health, and even survival.

So I think in the shaping of a policy we need to be clear that our concern basically here is with man and that when we talk about the implementation of policy, we are talking about the behavior of men, men organized through the Government agencies, through industries and various kinds of associations and people as individuals, to the extent that we can through national policy, through education, through political action, tend to internalize attitudes, to induce attitudes and values in the American people that will look upon this environment with the same degree of concern and care that an astronaut would look upon the environment in his space ship.

Then I think we are going to see that many of the problems that seem to be so difficult to deal with now will not be so difficult to deal with.

It is my judgment, Senator Jackson, that at the present time the American people are well ahead of the Congress in their willingness

to accept new legislation and policies and some tough ones with respect to the environment.

Dr. George Gallup reported recently here in Washington on a poll that his organization had taken in January about the willingness of the American people to make financial sacrifices and to pay higher taxes, to be subjected to controls, if necessary, to preserve and improve upon the environment condition. And he got a very affirmative response, particularly from the younger voters, and he also got a reaction that an overwhelming majority of the people now living in our large cities would get out of them if they could, the environmental conditions being that bad.

From their point of view——

The CHAIRMAN. I think 85 percent of the people that were asked the question, "Where would you like to live," responded by saying they would rather live in a small town or in a rural area away from the large metropolitan area.

Dr. CALDWELL. I think this is quite clearly the case. The people, I would say, at present are ahead of the Congress, and the Congress, it would seem to me—and this is a subjective view—is ahead of the Administration, at least the leadership in Congress has been ahead of the Administration on this.

Now, I think it is hard in many ways for the Administration to act, because what is the Administration? Well, it is not only the President, of course, and his immediate advisers, but it is a large number of agencies that we have created over a long period of time, and we have done this in sort of an ad hoc manner—when we needed the AEC or the Space Agency, we created them.

Now, we have a report, for example, from the Marine Science Council proposing a new agency for oceanic and atmospheric science.

In my prepared statement for the Committee, I have argued that it would be ill-advisable to proceed at this point with the creation of new ad hoc agencies. This, one might think, would apply to the creation of a Council possibly such as that proposed in your bill and that of the other Senators concerned with this problem. I think not so, because the kind of Council proposed in Senate Bill 1075 is not basically an administrative body. It is not set up to carry on new kinds of programs that have to be coordinated with other agencies. It is intended to provide for the independent review of the existing environmental state of the country.

I see in the Administration proposal a fundamental difference in concept of the function of this high-level Council, fundamental difference between the view that appears to be held with respect to its functions and those that I find in your bill and that of the other Senators.

I would think that the independent agency here alone can be counted upon to provide the inputs of time and attention and to raise the difficult and inconvenient questions.

The President, the members of the Cabinet, are extremely busy people. It seems to me highly doubtful that, as I suggested earlier in my remarks, they can be counted upon to make their own lines more difficult. And let me add this additional observation about the responsibility of men and women who would serve on such a Council as your bill proposes.

I would suggest that this is a very tough assignment, that people

who—in fact, I think I may have suggested it in my remarks to the Committee. If not, I have certainly suggested elsewhere that I thought service on such a Council would probably preclude a future political career for a person who would accept it, because I think——

The CHAIRMAN. You were making a very perceptive political statement.

Dr. CALDWELL. I think we are going to have to make the tough decisions and precisely for the reason that Senator Nelson mentioned this morning in his doubt, for example, that the Secretary of Agriculture would take a very strong line against a policy which his own agency people were pushing, not only his own agency people but many of the large farm organizations might be supporting.

The CHAIRMAN. Well, there is a basic conflict of interest between the agencies and it seems to me that where you are dealing among equals you are going to end up with the least common denominator. Each agency will want to water down their own problem, and they will want to hold on to what they have. And I observe further that it is going to be difficult for them to lay down standards for other agencies.

This is what they would be required to do if the President is going to get the kind of advice, or if he is going to be given a set of alternatives or options from which he is to make a judgment. I think it has a built-in conflict that is adverse to a proper decision on the part of the President. You need an adversary proceeding, which can only take place by some kind of a group that is directly associated with the Office of the Presidency, don't you think? I just don't see how this can be done otherwise.

Dr. CALDWELL. I agree thoroughly. Let me also add that at a meeting held not long ago here in Washington there was a discussion of the effectiveness of interagency committees to resolve issues among Departments.

Now, the observation that was made did not apply particularly to Cabinet-level committees, but it applies to all committees, and the observation by a member who had been a member of many such committees was this: that in inquiries that had been made here in Washington as to the number of these committees and how they functioned, it had been discovered that, first of all, nobody really knows. You asked the question, I believe, this morning, where are they? How many are there that are functioning? After an informal study, I think informal, had been made of these committees, it was observed that none of the really important issues got settled by the committees. All of the real important issues were taken out around behind the Committee, of course, to the White House or the Bureau of the Budget.

Now, the question that we keep coming back to, I think, is how many of these questions should the President of the United States be asked to resolve, and can we realistically expect that he will resolve them, or will they, in fact, be resolved by, let's say, a third echelon staff member in the Bureau of the Budget?

Now, I don't say this in any cynical manner. I don't say it in any way to disparage the dedicated attitude or the competence of the men in the Bureau. I have a high regard for them. Many of them are friends of mine. But we don't know who makes the decision. We say it is the President's decision.

Now, the issues of the environment are not only going to be tough to resolve from the scientific and technical point of view, they are going to be very tough to resolve politically. I can think of a half a dozen of them right now, and I am sure you can, that are going to create very real tensions for men in the Congress and for the executive agencies, and yet we need to arrive at some kind of intelligent decision.

I think these things are too important really to be resolved at levels so far down in the administrative hierarchy that we have no way of making an assessment of what kind of analysis went into them. It is not customary under our constitutional form of government for us to question the President on these things if the President makes a decision. And so I must say I do not have the optimism that has been expressed by some of the witnesses this morning about the good intentions of the President in this respect. I do indeed, I think it is most heartening that the President has shown this interest and he is willing to make the effort to do this. I think in any case his involvement is essential, but I would say, Senator Jackson, that I do not think it can be enough under the circumstances. I don't think realistically we can expect that the President of the United States can make this kind of assessment. He needs the kind of help that your bill would provide.

The CHAIRMAN. I appreciate your comments, Dr. Caldwell. I would like to say that as chairman of the committee that I will be calling on you for some specific language to implement what we have discussed here this afternoon. It seems to me that the policy problem falls into two categories: First, a broad statement of environmental policy that would apply to all of the governmental departments, with the Bureau of the Budget in a position to stipulate that when proposals come over, that they must meet certain environmental policies and standards.

I think the other area relates to quasi-judicial proceedings where independent agencies are in a position to grant permits and licenses for activities that potentially have an enormous impact on the environment. Perhaps we could work out some kind of a general statutory provision that would be applicable to all quasi-judicial proceedings.

Do you think that this is a valid distinction? I am trying to——

Dr. CALDWELL. I think it is.

The CHAIRMAN. Look at this from the standpoint of a general statute so that we do not get involved in the tedious task of going through the enabling legislation of every agency of the Government and trying to amend a long list of laws.

Dr. CALDWELL. No. I think there is a great deal of logic and practical wisdom in the approach that you suggest.

Let me add another element that we have not yet discussed in these hearings, but I think it ought to be mentioned.

I did mention that the President has appointed a task force to consider the organization of the executive branch. There have already been suggested changes in the structure of the executive branch which would, in fact, create a new kind of department to deal with these environmental issues, recognizing, of course, that no organization plan can bring all of the environmental matters under one roof, but that to some extent these problems of coordination and of getting an implementation of policy is consistent with policy on the environment.

For example, a good deal of our difficulty at the present time comes from an organization of the executive branch that is widely recognized as very faulty, very inadequate, and the President himself evidently recognizes this inadequacy. In the months ahead apparently the President will have a task force that is concerned with this problem, but ultimately the Congress is going to have to consider executive organization measures.

From the very beginning, from the time of the Washington administration, the Congress itself was concerned with the organization of the executive branch. It is quite consistent with our political and constitutional tradition. So I think, in addition to the concept that you have advanced here of general statutory standards of guidelines for action in lieu of the almost impossible task of screening the legislation of many, many agencies and our bureaus, in addition to that—and I certainly agree with you—we also need to take cognizance of the way in which the executive agencies are themselves structured. We need to keep in mind, I think, that these agencies have been put together over a period of decades essentially for ad hoc purposes, that they have been put together without very much general consideration of what the large missions of the Federal Government are. They have often been put together without much regard to the relationship of the role of the States.

We have said very little about that. Indeed, I think one of the important advantages of a Congressional statement on the environment is to also give some indication, perhaps some consideration in this legislation, if it is appropriate, to the role of the States that, after all, are very close to many of these issues but really cannot act effectively in the absence of a general national policy, particularly when many of the Federal agencies such as the Corps of Engineers, to name one example, the Bureau of Reclamation, the Forest Service, or the National Park Service, have certain important jurisdictional priorities with respect to lands and resources.

So I think as a closing observation here, I would like to suggest that the whole question of administration organization is relevant to the deliberations of this Committee on this legislation.

The CHAIRMAN. Thank you.

We will be calling on you for help, and we want to express to you our deep appreciation for the many, many contributions you have made in this field, especially remembering the fine work in connection with the colloquium in July, and what you have since done and what you have done long prior to that period in laying a fine groundwork for thoughtful discussion of this problem.

We will be calling upon you for some help before we get this bill out of committee.

Senator JORDAN.

Senator JORDAN. Thank you, Mr. Chairman.

Dr. Caldwell, I want to compliment you on a very fine statement and an able presentation of this matter here today. You have made a very strong case indeed for the need for a national policy for the environment, and I think that that is one thing that the administration lacks in its proposal in spelling out the objectives that we seek and the criteria for achieving those objectives.

You make a very strong case for that, and I think that the admin-

istration witnesses here this morning have about concluded that they needed that kind of statement of policy in their own program.

Now, as we come to the implementation of such a policy, there have been several suggestions, including the interagency device and in the Chairman's bill setting up a council comparable to the Council of Economic Advisers, and there is still a third device that might be implemented with greater freedom altogether, and that is a council perhaps set up like the Federal Reserve Board, with almost complete independence.

Your suggestion that people might serve better if they were removed from political pressures might make a greater independence desirable in this area. Would you agree to that?

Dr. CALDWELL. I would agree with that, Senator Jordan. As a matter of fact, I have expressed some reservations about the legislation for the committee in placing the Council on Environment in the Executive Office of the President.

Now, there is a question here, it seems to me, of whether the President ought to have the full initiative, the freedom of exercising his own Executive Office, and the extent to which the Congress should attempt to guide the President in that organization.

While I wouldn't want to commit myself to an opinion here as to specifically how this ought to be handled, I would certainly think, in the further consideration of the environmental policy legislation before this committee, that the possibility of such an independent agency ought to be considered. It may be relevant, for instance, to observe, in the hearings before the House of Representatives Science and Astronautics Committee, the Subcommittee on Science and Research, chaired by Congressman Daddario, that there was consideration of what was called the Technology Assessment Board which, in the views of Congressman Daddario, would have a major concern for the effective technology on the environment.

I have not looked at that proposal recently, but, as I recall it, the Technology Assessment Board was set up somewhat under the same kind of status as the General Accounting Office.

Senator JORDAN. Yes.

Dr. CALDWELL. That is to say, it was responsible to Congress but also to the President. It seems to me that at the moment, I am not quite certain as to whether there may be as many disadvantages in having such a Council in the Executive Office of the President as there would be in having it an independent agency.

The argument is, of course, that it needs to be close to the seat of power, the seat of action—the President. On the other hand, even if it is in the Executive Office of the President, it won't be effective unless the President really wants to use it. If it is in the Executive Office of the President, the question does arise as to the privileged character of its communications. Would it be subject, for example, to question by the Congress? In my judgment, it should be.

Senator JORDAN. Yes.

Dr. CALDWELL. The kind of issues with which it is going to deal are going to affect the lives and property and health of the American people too closely to have it cloaked with an immunity to question by Congress.

Senator JORDAN. This is an area that can very well be explored—

Dr. CALDWELL. Yes.

Senator JORDAN (continuing). To see where that responsibility should lie, to whom this Council, or whatever you call it, might report and be responsible.

Dr. CALDWELL. I am not unmindful of the important leadership role of the President in these matters, but I must confess that I feel that we have perhaps moved a little too far to a position of an almost exclusive reliance upon the President or the White House, as we say, for leadership and guidance in these matters. And it seems to me that the country is too big, the issues are too complex, to make this a realistic attitude. And we do not yet have, even in the President, a superman.

Senator JORDAN. We want to be insulated against the President who might come who was indifferent to the cause and thus stymie the program.

Dr. CALDWELL. Presidents come and go, but we are talking now about an issue of public policy that is a continuing issue. And if it is true, as some critics have said, that you can't expect the Congress to rise to the level of statesmanship and responsibility there because of its local parochial views, and so on, I think this is a commentary on our form of government that would require reexamination in the light of historical circumstances.

I have already indicated to the Committee that we can look to various periods of American history in which the Congress has shown great capabilities for leadership. The idea, for instance, here of an agency that is independent in some respects of the Executive Branch does not disturb me as long as Congress has enacted a kind of policy that is clear and operational and as long as the relationship between this Council and the Executive Branch is worked out to avoid unnecessary friction.

But let us be quite realistic. If we have such a Council there are going to be times when there is going to be friction. Such a Council is going to have before it findings and reports which heads of Executive Agencies will not like.

Maybe these are considerations that at least ought to have an airing, ought to be discussed. It seems to me much more likely that they will be discussed in this independent Council than they will be discussed if you have a Council composed of Cabinet officers who, out of courtesy to one another, or concern for the troubles of their fellow Cabinet officers, are not going to make their own life more difficult, you see.

And then, of course, we have the question of the agencies that are not represented on the Council at all as proposed by the Administration.

Senator JORDAN. That is right. Well, I shan't question you further. I hope you will give us some time and help us write a policy statement that will contain criteria that will be necessary to implement this and keep it going.

The CHAIRMAN. Thank you, Senator Jordan.

Senator Stevens, questions?

Senator STEVENS. No. Thank you very much.

The CHAIRMAN. Senator Bellmon.

Senator BELLMON. Thank you, Mr. Chairman.

Professor Caldwell, you just made, I think, a very good point, and that is that an independent Council would perhaps permit more free discussion than a Cabinet-level Council might. But do you feel that

if the Congress were to give the Department of Interior the authority it needs to handle responsibilities in the field of our own environmental problems that this would in any way limit discussion?

Dr. CALDWELL. As the Department of Interior is presently organized—well, my personal view is that this would perhaps not be the best way to implement the kind of environmental policy that it would seem to me that we need.

Now, I know that the present legislation before the Committee, the bills by Senators Jackson, Nelson, and McGovern, do place upon the Secretary of the Interior responsibility for implementing a policy of increased research, survey, surveillance of the environment, and we also heard the Secretary of Interior this morning indicate that the Department, as now constituted, would find it difficult to do this, that it would be willing to do it but that it would require new funds, new personnel.

The Department of the Interior had an Office of Ecology some time ago which it discontinued. I don't know what the reason for the discontinuation was. But the point that the Secretary made, I think, was well taken about the relations between Interior and co-equal departments, that for Interior to attempt to obtain information from other departments, and even though the legislation indicates that the other departments should provide it, again there is a question of the extent to which, indeed, they can be persuaded or compelled to do this. There is a real question in my mind as to the feasibility of Interior dealing with those aspects of the environment for which its own mandate, its own staff, have no unique competence.

I think some of the objections that would go to the placing of the survey and research responsibilities in the Department of Interior are the same as are made with respect to placing them in the Office of Science and Technology, that we are not organized, Senator Bellmon, at the present time to deal with these complex environmental problems and the way in which they interrelate.

If you were to ask me what would be a better way to do it, I think I would be inclined to say that such an organization for survey and research, if it has to be created *de novo* in any case, why not place it under the staff of an independent Council on Environment, and then give it the necessary mechanisms for drawing upon the Office of Science and Technology and the Department of Interior and the Environment Science Services Administration and the National Institute of Environmental Health and the Corps of Engineers; that is, we have tremendous sources in the Federal Government for attacking many of these problems of environment.

I think our deficiency does not lie really in our technological competence. We have in the Corps of Engineers, for example, in the Bureau of Reclamation, to take just two agencies, some superb engineering skills. What is required is our ability to direct them to the points of greatest need. And these, I think, we can see increasingly on the problems. Environment degradation, the problems of cities are not the problems of 50 years ago; they are the new problems.

Now, I think if we could create—I mean, the Congress has to appropriate in any case the funds to do the job. It ought to be at least open to review where the funds are put.

One additional consideration seems to me for putting them under an

organization like the Council on Environment is a very practical one. That practical consideration is the political liability of such a Council. It would have, of course, the support of conservation groups throughout the country. It would have the support, I am sure, of people in the field of medicine, environmental health, various phases of engineering concerned with this problem.

But I think that if it had the financial muscle, it could make contacts of its own for study and to negotiate special studies through the White House, for example, with the Office of Science and Technology, or to draw upon our resources in the private research and development sector. We have capabilities in the aerospace industry, for example, for dealing with many of these environmental problems.

I am reminded that the Governor of California several years ago undertook four studies, I think, using our aerospace capabilities to deal with environmental problems. They were not all environmental problems. One was on waste disposal. Others dealt with other aspects of public life. But such an organization as a Council on the Environment could perform these functions without the disadvantages, it would seem to me, that could be incurred by placing it in agencies such as the Department of Interior.

I am not saying that the proposals now in the legislation pending before this committee ought not be implemented, but what I am suggesting is that if the possibility of putting these functions directly under the Council has not been considered, it might be worthwhile to consider it, particularly in view of the testimony this morning from the Secretary of the Interior concerning certain of the problems that such a change would create.

I think quite possibly when Senator Nelson, for example, first introduced his ecological survey and research bill that at this point the notion of a high-level council such as is proposed now in the legislation had not fully come into view, and at that point the Department of the Interior seemed to be the logical place. And when it comes to operation such as, for example, the air and water pollution, the idea of bringing these together in a more coherent relationship, I think that's a different question.

Senator Jackson remarked this morning about the need for more coherent interrelating of these functions, and I agree with that, but I think on the question of undertaking this business of surveillance and research and survey, that it does not follow that the Department of the Interior is uniquely suited for this. It certainly could do a job here if that seemed to be the only possibility, but it does not seem to me to be the only possibility and perhaps not the best possibility.

Senator BELLMON. Professor, I believe it was Senator Nelson this morning who pointed out that many of the departments in the Department of the Interior already deal with environmental questions. Now, is it your thought that some of these should be moved away from Interior into the commission we are discussing in case it is established?

Dr. CALDWELL. No, I know of no agency in Interior presently that would be moved out. As I say, there was an Office of Ecology which was established. It did exist for a period of time in the Department. Mr. John Buckley, who is now with the Office of Science and Technology, was in that office, I believe. The office was looked upon, I

think, among conservation groups throughout the country as a very desirable thing. I am not quite sure why the Department of the Interior discontinued it, but this is the only kind of an agency currently in the Department of the Interior that would, it seems to me, had it persisted in the Department, be moved under some new such agency, but I can't see that the operative agency ought to be changed from Interior.

Senator BELLMON. What about the Water Quality Control function of the Department of the Interior? Would it stay where it is?

Dr. CALDWELL. Well, I should think it ought to stay. Any operative agency, it seems to me, ought to stay within an operating department. In other words, I would not think that such a Council as has been proposed in Senate bill 1075 and other similar legislation should have operational responsibilities. I do not think that such a Council should itself set the standards or should issue directives or review State actions, for example, with a view to making certain determinations that would have legal effect, have the force and effect of law.

This is not to say that such a council should not review what the States have done here and make recommendations to the President and to the Congress about what they find, but I would not think it desirable to remove from any of the operating agencies any of their what we call line functions, although I would certainly agree with Senator Jackson's remarks that we might have a better organization under them than we now have. But this is a difficult question because, as you know, there are a very large number of agencies, and at least six of the Federal departments have major environmental responsibilities, and, of course, we have a number of independent agencies such as the Atomic Energy Commission and the Space Agency that have environmental responsibilities.

It think it quite inconceivable, even if we have a major superdepartment, let us call it, for the environment of natural resources, that we would bring all of these environmental functions under one roof. I mean, it is not necessary nor desirable to do that. But whatever we do in the area of administrative organization, we ought to make a distinction between advisory, factfinding and analytic functions and those that involve the actual implementation of policy. It seems to me the Cabinet agencies, the line departments, are the ones that have the responsibility for action. The kind of agencies, the kind of functions that we ought to vest in an independent council are those of factfinding, analysis, advice, high-level visibility of the issues, to give the American people and the Congress a chance to see what the alternatives are so that we can make intelligent decisions. For example, if after considering all the factors with respect to the degradation of Lake Erie, if the American people decide they want to pave it over and make an airport of it, they know what they are doing at any rate, they know what the costs are. We don't go into this sort of thing simply by accident or inadvertence.

That is a function, it seems to me, such a high-level council should perform and not one of specific policy implementation.

Senator BELLMON. You heard Dr. DuBridge this morning make a comment about the device that could be installed on an automobile to diminish the amount of smog in Los Angeles. Do you see the Council we are discussing here as having a role in a decision of that kind?

MR. CALDWELL. Yes. I think, of course, we already have action going on in the Public Health Service and other agencies, such as the Department of Transportation that are concerned with this problem. You know there are a great many things that can be done with our immense resources and science and technology if we really organize to do them. Now, to ban the automobile in Los Angeles is not the only problem, nor is it a problem merely to get rid of the internal combustion engine if we have, for example, another means of providing transportation, for instance, the electric automobile. So there are many technical alternatives that could be explored and developed if we were organized to obtain this kind of focus. I think this is the kind of responsibility that we are talking about when we think of the functions of this high-level Council on Environment.

Senator BELLMON. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Professor Caldwell, we want to say thanks again for your invaluable contribution today, and what you have done in the past, and we are looking forward to your help in connection with the drafting that will be required in getting an appropriate bill before the Senate.

Thank you very much.

MR. CALDWELL. I will be glad to help as needed.

Thank you very much.

(The prepared statement referred to follows:)

STATEMENT BY LYNTON K. CALDWELL, PROFESSOR OF GOVERNMENT,
INDIANA UNIVERSITY

MAJOR ALTERNATIVES FOR INSTITUTIONAL REFORMS DESIGNED TO IMPROVE THE GOVERNMENT'S CAPACITY TO MANAGE THE ENVIRONMENT

The question at issue is this: How should the federal government be restructured to deal more effectively with the growing stress upon our natural environment?

The term "environment" includes the life-support system of our nation and of all the earth—the system of interactions of people with the air, water, land, and living organisms that comprise the biosphere—the interactions of those elements in our world capable of sustaining life. And although our immediate concern is with environmental policy in America, that policy must permit our nation to play a constructive role in international efforts to safeguard the biosphere of the whole earth. For this sphere of life, as we have now perceived it from outer space, is an ecological unity. All men, together with all other living things, depend upon its self-renewing capabilities for their continuing existence.

There is general agreement, here and abroad, that the issue of man's environmental relationships is growing in importance. But how important is it? (As important as military defense or foreign affairs?) What is its priority in relation to other needs of society? (To social welfare, civil rights, or economic growth?) What kind of problems does the environment present? (Scientific, technical, social or a mixture of these and other elements?) Answers must be given to these questions before intelligent decisions can be made regarding institutional reforms. Differing proposals have been made for dealing with environmental policy at the national level. But in order to choose wisely among these alternatives, a judgment must be made regarding the purposes and priorities of government action.

Clarity of policy and action would be served if this judgment could be made explicit. No general statement of national responsibility for the protection of the environment has yet been adopted by the Congress. But on July 17 of 1968, the Senate Committee on Interior and Insular Affairs and the House of Representatives Committee on Science and Astronautics sponsored an informal joint colloquium on "A National Policy for the Environment." A special report on environmental policy was prepared for the Senate Interior Committee

in connection with this conference and has been appended as Exhibit I to Senate Bill 1075. [Congressional Record, February 18, 1969 S. 1780 *et seq.*] In its preamble the Bill itself sets forth a policy to:

of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources, and the environmental forces affecting them and responsible for their development and future well being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research."

If the Congress were to adopt an explicit statement of policy, as it did in the Employment Act of 1946, choice among alternative proposals for environmental administration would be facilitated. An adequate statement of policy would provide criteria for determining what type of organization and procedure would be required to make the policy effective. Such a statement would, or should, provide a clearer indication than we now have of the importance attached by the Congress and the American people to environmental policy in relation to other issues. In the absence of a statement of policy on which majority agreement has been reached, we have no consensual basis to support a positive program of environmental administration. Meanwhile, we can only guess at the degree of priority attached to environmental policy by the sponsors of specific legislative or executive proposals.

Current proposals for institutional change can best be understood if grouped by the several categories into which they logically fall. These categories represent differing perceptions of the environmental issue, its importance and its relation to other issues. The categories are also, by implication, responses to the question: Is man's relationship to the environment *in itself* a major focus for policy or is it important primarily in relation to other issues? The greater number of proposals introduced into the 90th and 91st Congresses have assumed the protection of the environment to be a very major aspect of national policy, although obviously related to other policy areas as, for example, to agriculture, urban affairs, and recreation. Within this general category of environment as a distinct policy focus, there are three sub-categories of institutional reform which we will presently examine. But there are two other categorical approaches to the environmental issue in which it is included under other policy objectives.

The first of these includes the state of the environment under a continuing assessment of national social accounts. Within the social accounts category, environmental factors would be considered in relation to conditions of health, poverty, education, population dynamics, and human resource problems generally. There are important environmental aspects in all areas of social concern, and it would not be inappropriate to consider them under the social accounts category. Yet it may be argued that the primary focus of social accounts is upon man-to-man or group-to-group relationships, and that these constitute a large and complex field of concern quite apart from the equally large and complex field of man-environment relationships. Advocates of a separate organization for environmental policy argue that a national system of social accounts should not attempt to embrace environmental factors *per se*, but should deal with them only as inextricably related to human resource problems. The separate policy advocates fear that, in a merger of environmental and social concerns, the less understood, less generally apparent, environmental problems would be slighted in preference to the types of social issues and conflicts with which the public and its political representatives are historically more familiar. Moreover it is contended that the types of knowledge and judgment necessary for policy analysis and advice differ as between social and environmental concerns to an extent that separate organizations for each would better serve the public interest.

The second approach to the environment as an aspect of another area of policy is to bring it into the federal structure for science and technology. To some extent this has already been done. The Office of Science and Technology and the Federal Council for Science and Technology have studied environmental policy questions and the President's Science Advisory Committee has issued at least two major reports on environmental policy issues [the reports on *The Use of Pesticides*, 1963, and *Restoring the Quality of Our Environment*, 1965.] On the occasion of President Johnson's Message to Congress on Natural Beauty [February, 1965], he instructed the Directors of the Office of Science and Technology and the Bureau of the Budget to recommend how the federal government might best organize its efforts toward advancing scientific understanding of

natural plant and animal communities and their interactions with man and his activities. On January 24, 1968, in a joint memorandum for the President, the Directors recommended that the Office of Science and Technology assume responsibility for maintaining an overview of this policy area and assure the necessary coordination among agencies with the scientific community. The recommendations comprising Part III of the memorandum deserve careful attention. They correspond generally to those incorporated in the Congressional proposals, presently to be discussed. No "independent" advisory committee was suggested in the memorandum, although a joint federal agency-academic planning group was recommended for guiding ecological research.

President Johnson does not appear to have acted on this recommendation during his remaining year in office. The substance of the report reappeared, however, in a new memorandum, presumably prepared by staff in the OST and BOB and submitted to President Nixon by his Science Adviser, Dr. Lee Alvin DuBridge, on February 24, 1969. On March 17 the *Washington Post* reported pp. 1, 3 that President Nixon was considering designating his Science Advisor as Executive Secretary for a cabinet-level inter-agency Environmental Quality Council, with the Office of Science and Technology providing staff support. Reaction to this proposal, outside the Executive establishment, has ranged from cautious to skeptical. Four serious questions have been raised regarding this proposition. *First*, is environmental policy not broader than science and technology, involving questions of value—of economics, esthetics, and ethics for which scientists and engineers have no distinctive competence? *Second*, is the addition of environmental policy responsibility to the duties of officers and agencies primarily concerned with other issues adequate provision for the task? Or does it represent a convenient, non-committal disposition of a political issue that is perceived in the Executive Branch as troublesome, but of relatively low priority? *Third*, is there any real promise that a cabinet level council, chaired by the President or Vice President would ever function as proposed? To observers wise in the ways of bureaucratic behavior its Interagency membership suggests a role of mutual adjustment and accommodation rather than an uncommitted review and assessment of alternative courses of action. *Fourth*, and last, would the Congress and the country have as much confidence in organizational arrangements tied closely to the politics and personality of the incumbent President as they would in an organization created by the Congress and staffed independently of any other agency affiliation?

Answers to these questions will differ among respondents. It is however a safe surmise that very few persons who have been deeply concerned and involved in environmental policy issues would consider this arrangement adequate to the task. It offers little that is not already available in the federal executive establishment. The President can convene his cabinet on issues of the environment or of any other area of policy. We have already noted that there is nothing new in the concern of the OST with technoscientific aspects of environmental policy. But to undertake coordination of the ecological aspects of environmental research and policy would either disproportionately weight its emphasis in this area to the possible detriment of other areas of science or, more probably, would result in insufficient attention to its ecological responsibilities.

This objection might in part be obviated if the OST were to become the nucleus of a greatly enlarged cabinet level Department of Science and Technology. The departmental proposition has been under informal discussion for a number of years. [E.g., Carl F. Stover, *The Government of Science*, 1962]. It was recently broached by retiring science adviser Donald F. Hornig in an address at the 1968 Annual Meeting of the American Association for the Advancement of Science. But the objection that environmental policy embraces more than science and technology would remain. Moreover the examiner of United States science policy for the Organization for Economic Cooperation and Development cited environmental policy as an area in which American science had *not* been notably successful. "There is little sign," wrote Examiner C. D. Waddington, Professor in Edinburgh's Institute of Animal Genetics, "that U.S. scientists concerned with grand strategy have been thinking about . . . how we can ever develop a really scientific approach to creating an environment and social organization in which human living will be at the best level of physical well-being . . ." Examiner Lefèvre, former Premier of Belgium, remarked that environmental problems are harder ". . . to tackle systematically, on the scale required, than to solve technical problems." In sum, the prospect of developing an adequate administration of environmental policy as an aspect of science and technology does not seem promising. [Cf., *Reviews of National Science Policy: United States, OECD*, 1968].

But to return to the Office of Science and Technology as presently situated, what of the contention that environmental policy is not likely to flourish unless administered close to the seat of power in the White House? To argue that the President, personally, will give more attention to an arrangement of his own creating than to one "wished upon him by the Congress" is to conjecture beyond available evidence. The unique powers of the President extend primarily to foreign and military affairs; on domestic issues he must, in greater measure, collaborate with the Congress. For nearly a generation, the President has been preoccupied with wars, hot and cold, and with America's international involvements. Environmental issues are preponderantly domestic and few of them can be resolved without Congressional cooperation on matters in which the Congress has not customarily deferred to the White House, as it often has on matters affecting the command of the armed forces and the negotiation of international agreements. In short, it is more important that a Council on the Environment, as proposed in S1075 and several other bills now in committee, have a closer rapport with Congressional attitudes and responsibilities than is necessary, for example, in the case of the Presidents Science Advisory Committee or the National Security Council. Presidential leadership is in no way diminished by the Congressional proposals on the environment but, consistent with the theory of the Constitution, the President shares responsibility with the Congress on matters of civil and domestic policy. Therefore, with one exception, all other proposals for environmental policy implementation assume a base of governmental responsibility that is broader than the Presidency.

This exception is the reported, not unpublished, recommendations of President Nixon's task force on environmental policy headed by Russell E. Train, then President of the Conservation Foundation, now Undersecretary of the Interior. The account of the task force recommendation appeared in the *New York Times* of January 12, 1969, and has been reprinted in the *Congressional Record* as Exhibit 3 of Senate Bill 1075 [February 18, S. 1794]. The task force was reported to have recommended a cabinet-level interagency Council on the Environment, (comparable to that reported to be under consideration by President Nixon in connection with the proposal to treat environmental policy primarily as an aspect of science and technology). But the task force recommendation differed in a very fundamental respect from the Office of Science and Technology proposals of 1968 and 1969. Urging that "... Improved environmental management be made a principal objective of the new administration," it recommended that the President appoint a Special Assistant on Environmental Affairs, who would also be Executive Secretary to the Council on the Environment, and who would presumably give full time to this assignment. The President's Science Adviser was indicated as one of the officers with whom the new special assistant would closely work. The task force, therefore, appears to have perceived the environment as a focus for policy in its own right, rather than as a special aspect of science and technology.

The Nixon task force proposal falls into one of three categories into which may be grouped those alternatives for institutional reform which are premised on the environment as a major focus for public policy, unsubordinated to social accounting or technoscientific considerations. With an important reservation, the following three categories of proposals reflect an ascending sense of importance and urgency on the part of their sponsors. The reservation is the judgment of individuals as to what at any given time is politically feasible. In general, conservative and adaptive reforms are more feasible than novel or drastic measure. Surgery may be what the patient requires, but it is usually easier to persuade him to accept medicine. It would therefore be incorrect to conclude that the sponsors of more conservative proposals, such as the reported task force recommendations, would not favor stronger measures if they believed them to be obtainable.

The categorical alternatives to institutional reform for the environment as an independent focus of public policy are these:

a. Presidential Special Assistant plus cabinet level interagency council (reported to be the recommendations of the Nixon task force).

b. High-level council, independent of the executive departments but located administratively in the Executive Office of the President, plus a far-reaching program of environmental research and surveillance in the Department of the Interior, and requiring annually or biennially a report from the President to the Congress on the state of the environment. (Senate Bill 1075 and several similar proposals in the Senate and House of Representatives.)

c. Major departmental reorganization taking one of several forms:

(1) A moderate reorganization of the Department of the Interior as a Department of Natural Resources (e.g., transferring the Forest Service and the civil functions of the Corps of Engineers into the reconstituted department).

(2) A new specialized technoscientific agency for environmental research and engineering development, such as that recently recommended by the National Commission on Marine Science, Engineering and Resources.

(3) A new super-department of the Environment and Natural Resources based roughly on the model of the Department of Defense, primarily for planning and coordinative purposes, and probably associated with a major restructuring of the entire Executive Branch.

The first of these alternatives has already been discussed; our attention will therefore be directed to the two remaining groups of categories.

The first of these categories calls for a high-level council on environmental policy to be situated in the Executive Office of the President. A near variant is Representative Emilio Q. Daddario's proposed Technology Assessment Board, but this would be an "independent" agency equally responsible to the Congress and the President, and would be concerned with technological impacts other than those on the environment. Senate Bill 1075 probably represents the proposal within this category of alternatives for which the widest consensus outside of the government presently exists. It overcomes objections to the subordination of environmental policy to a system of social accounts or to an exclusive emphasis on science and technology. And it avoids loss of identity for environmental policy, or prejudice to independence of viewpoint, that would probably attend the deliberations of an interagency council. Although it adds certain functions, chiefly those of surveillance, education, and research to the Department of Interior, it does not otherwise alter the structure of the federal government.

Some friendly critics of S. 1075 would like to see it reinforced by a more explicit statement of national policy and by such measures as might strengthen its leverage in relation to the other executive agencies. The experience of the National Resources Planning Board of the nineteen thirties is a warning of the vulnerability of a political powerless agency in a policy area of conflicting interests and values. Environmental issues are avoided by some elective officials *because* of the risk that they entail. It is traditional political prudence to avoid being caught in the cross-fire of powerful, antagonistic interests. Compared to a Council on the Environment, the Council of Economic Advisers operates in a tower of ivory, behind a wall of statistical abstractions that few citizens profess to understand. The protection and improvement of the environment is unavoidably involved in controversy. Until the realities and limitations of Spaceship Earth are more widely understood and respected than they are today, the members of a Council on the Environment ought to be exceptionally free from political ambition. Effective service on such a Council would probably preclude subsequent election to public office.

A second concern regarding S. 1075 is with its designation of the Department of the Interior as a major agency "to conduct investigations, studies, surveys, research and analyses relating to ecological systems and environmental quality." The concern is not primarily that research is not a governmental function, but rather that the nature and scope of environmental and ecological research is no more uniquely appropriate to the Department of the Interior, as it is presently organized, than it is to the OST. Ecological and environmental concerns are the business not only of Interior, but also especially of the Public Health Service, Environmental Science Services Administration, and of at least six other federal agencies. There is little if any quarrel with the ecological survey and research objectives of S. 1075 or of a similar measure sponsored by Senator Gaylord Nelson. The question is whether the responsibility should be placed in any of the federal departments as presently constituted, unless buffered from political and bureaucratic importunities by a structure analogous to that provided for the National Institutes of Health.

There are a number of alternative arrangements for realizing the important objective of ecological and environmental research. Among them should be listed proposals for a quasi-autonomous National Institute of Ecology advocated by the Ecological Society of America; for a National Social Science Foundation, proposed by Senator Fred Harris; and a system of university related institutes of environmental studies, recommended by the Pollution Panel of the President's Science Advisory Committee and the Caldwell-Sargent proposal to the Public

Health Service Symposium on Human Ecology, November, 1968. It seems probable that some combination of research agencies under the overall coordination of the high-level Council on the Environment would be the most practical answer to the need. The previously cited OST memorandum of 1968 proposed such a coordinative arrangement, but under its own supervision. Funds, in addition to those now appropriated for research activities in presently existing agencies, could be administered by a Council on the Environment. This might advantageously reinforce its political viability by developing a constituency of professional societies, universities and research institutes, associated with it through its administration of research grants and contracts.

The third category of proposals—for departmental reorganization—currently includes at least three alternatives. The proposal for a Department of Science and Technology has already been mentioned, but its mission would not primarily be environmental policy. The most frequently discussed alternative would reconstitute the Department of Interior as a Department of Natural Resources. This proposition has been criticized, however, as presenting a one-dimensional view of the environmental issue—the economic. “Natural resources” is a commonly used, unobjectionable economic concept, but it does not include, except by an act of extraordinary semantic creativity, the full range of needs for which man seeks fulfillment in the environment. There appears to be a growing tendency to consider the Department of the Interior as a Department of the Environment, particularly as its concern was broadened under the administration of Secretary Udall to include, in the words of President Johnson, “a new conservation—not just the classic conservation of protection and development, but a creative conservation of restoration and innovation. Its concern . . . not with nature alone, but with the total relation between man and the world around him.” [Message to the Congress, February 8, 1965.] “The Secretary of the Interior,” editorialized *Time Magazine* May 10, 1968, “really ought to be the Secretary of the Environment.”

The major difficulty with the transformation of the Department of the Interior into a Department of the Environment develops out of the effect of this action on other government agencies. If natural resources were the organizing principle around which the Department were reconstituted, the combination of agencies to be included would differ from those logically related to an environmental focus. All major areas of public policy tend to interrelate in ways that are inconvenient to the makers of conventional organization charts. For example, how should the federal government organize to deal with energy? The nation has no coherent energy policy, but eventually it is likely that one will emerge. Should energy policy be considered an environmental matter, or is it primarily an economic or technoscientific issue? If environment becomes the major focus of a single department, would all agencies having to do with the environment come under its jurisdiction? It should be obvious that they would not. For example, foreign affairs, education, health, and justice are the primary concern of specific agencies, but the exclusive concern of none. It is, however, possible that much of the difficulty in conceptualizing a better organization for the Executive Branch lies in our unwillingness or inability to rethink the role and functions of the federal government in American society. One attempt to break out of conventional assumptions regarding departmental organization is the idea of the super-department or ministry. But before examining this alternative, it is necessary to review briefly another alternative (although only a partial one) for departmental reorganization for environmental policy.

The National Oceanic and Atmospheric Agency, proposed by the National Commission on Marine Science, [*Our Nation and the Sea*, January 11, 1969], is not directed so much toward ecology and the broad range man-environment relationships as it is toward physical science and engineering. It is considered here because of its obvious relationship to federal organization for environmental policy. But it would not answer the need for institutional reform that has induced the environmental quality legislation proposed in the Ninetieth and Ninety-First Congresses. The principal difficulty with the Marine Commission proposal is that it has not been made within a context of comprehensive reorganization within the Executive Branch. The continuing *ad hoc* creation of independent agencies is of dubious wisdom if responsible and coordinated public policy is desired. The establishment of a new Marine and Atmospheric Science Agency may be desirable, but such a decision cannot be responsibly undertaken unless it is an outcome of a careful examination of the full range of governmental responsibilities for the environment.

This same conditional proviso is equally applicable to establishment of a new super department for the environment and natural resources. Because discussion of the super-department has as yet been chiefly on an informal basis, official proposals for institutional reform cannot be cited. Nevertheless, there are certain considerations upon which most proponents of this type of agency seem agreed. They are, *first*, that reorganization for environmental policy can most effectively be undertaken as a part of a review of the total structure of the Executive Branch; *second*, that no agency, however comprehensive, can or probably should have exclusive jurisdiction over any aspect of public policy; and *third*, that the rationale for the super-department is to bring a greater degree of clarity, coordination, and responsibility to federal administration. The large scale of the super-department makes it easier to accommodate functions of environmental, natural resources, and energy policy under one coordinative structure.

The super-department is what in parliamentary government would be called a ministry. Its functions would be those of planning, review, coordination, and conflict resolution. It would not be an operative department in the traditional sense, and would relate to subordinate agencies somewhat in the manner that the Department of Defense relates to the Departments of the Army, the Navy, and the Air Force. An objective of the super-department would be to de-concentrate, to some extent, the power of decision now theoretically lodged in the person of the President, but in fact often exercised by lower echelon officials in the Bureau of the Budget and other Executive offices of whom the Congress or the electorate have no knowledge and no means of questioning or calling to account. The head of a super-department would have higher visibility than most cabinet officers have experienced since the early years of the Republic.

Professor Stephen K. Bailey in his essay in the 1968 Brookings Institution report entitled *Agenda for the Nation*, identifies four areas of prime concern for the nation as viewed from the Executive office. These he describes as national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. These four areas could become the foci of new cabinet level super-departments as indeed the first of them—national security—already is. This form of administrative organization would not, however, obviate the need for separate advisory councils. Indeed, it would make their separate status more important as independent agencies for policy surveillance and review. Some students of public administration believe that there are advantages to responsive and responsible government in alternative sources for public decision or action on nearly all issues. They argue that a moderate degree of competition among agencies may actually increase the efficiency of government operations. It is therefore pertinent to this argument to point out that the super-department concept does not necessarily imply exclusiveness or monopoly in any sector of public policy, and is consistent with the idea of multiple avenues of recourse on any public policy issue.

SOME CONCLUDING OBSERVATIONS

At the outset of this statement, the point was made that a choice among alternative arrangements for environmental administration would logically depend upon an assessment of the importance of the issue and a judgment regarding its nature. The foregoing analysis of alternative proposals indicates that differing conclusions on these matters have been reached by differing groups and individuals. But the task of decision by the Congress and the President is not greatly assisted by a comparison of divergent views. Their need is for more basic criteria. The argument has been advanced that a national policy for the environment, adopted by the Congress as a statute or resolution, could provide this criteria. The absence of an adequate policy statement, accompanied by explicit provisions for its implementation, is the most serious omission from the current set of legislative proposals for institutional reform. Without such an operational charter, the political future of a high-level council on the environment, such as proposed by Senators Jackson, Nelson, and McGovern, among others, would be unduly handicapped. Its situation would be comparable to a Council of Economic Advisers *without* an Employment Act of 1946.

The scientific evidence of a mounting crisis of the environment is so pervasive and so thoroughly documented that rational disagreement can occur only with respect to the *degree* of its seriousness. But scientific truth does not automatically become political truth. Political disbelief cannot alter material reality; it cannot alter or amend scientific fact. But it can prevent government from coping effectively with reality. Dr. George H. Gallup Jr., President of the American Institute

of Public Opinion, believes that most Americans accept the proposition that there is indeed a real crisis of the environment and that government is not doing enough about it. In a recent survey (January, 1969) he found that younger adults in particular were concerned about environmental degradation. Analysis of the news media would tend to confirm Gallup's view. The country as a whole may be more ready for a vigorous attack upon environmental problems than are the rank and file of the Congress or the mission-bound Executive agencies. But if the recent multiplication of Congressional subcommittees with an explicit environmental concern written into their titles is more than an improbable coincidence, it is an indication that concern for the environment is being perceived in the Congress as good politics. But the scientific truth of an environmental crisis will not become a fully legitimized political truth until the Congress, or the people, by their votes make it so.

Mayor Carl Stokes of Cleveland recently expressed a feeling shared by millions of Americans everywhere when he compared the threat to American security posed by the pollution and decay of our urban environments to the military and ideological threat external to our boundaries. Mayor Stokes does not have to read the scientific journals to discover the nature of the threat to our environment. With millions of other Americans he daily experiences the threat, and finds it increasingly difficult to reconcile the enormous disproportion between the national commitment in money, men, and organization to defense against possible attack from overseas and the inadequate and defaulted commitments to defense against the forces of decay at home that could as surely destroy the national security. Four years ago in a prophetic essay [Harper's Magazine, February, 1965], Peter Drucker predicted that quality of environment and of human relations would become the major political issues of the future. He foresaw success for political leadership that understood the coming change of values. But he also saw that the greater part of our political leaders of middle age were locked into the perceptions and values of the nineteen thirties and forties. When this perception gap is also a generation gap, and becomes also a political gap, the makings of political overturn are present. The Nixon administration and the 91st Congress may have the last opportunity for American political leadership to deal with the problems of the environment and of human relations by means of methods short of radical.

Any clear-minded elected official knows, and Lyndon B. Johnson perhaps knows better than any, that the public does not reward its political leaders for good intentions. If our estimate of the scientific and political significance of the environmental issue is correct, it is already long past time for a major reassessment of national priorities in relation to the environment. This reassessment is unquestionably a responsibility of the Congress. There has been articulate leadership on behalf of environmental policy in both Houses of the Congress. Few of the individuals or legislative proposals have been specifically identified in this report, which has been concerned with issues rather than with events. But it is now time for events—for adoption by the Congress of an explicit course of policy and action to bring the worsening environmental situation under control.

Let us begin the task where best we can. If the least promising of the organizational alternatives is the best that can be presently detained, let us begin there as a temporary measure. But let us also persist in efforts to obtain the most effective organizational answer to the problems of environmental policy that experience and research can provide. Few of the alternatives now under consideration for implementing environmental policy are mutually incompatible. The effectiveness of measures taken will depend *first* upon an adequate, operational national policy and *second* upon an adequate definition of the place of environmental policy in the total structure of the Executive Branch. Beyond these considerations are problems of relating federal responsibilities to those of state and local government and to the non-governmental and international aspects of our society. On Sunday, March 30th, the *Chicago Tribune Magazine* printed Part I of a state-of-the-world report on the earth dweller's tendency to make his planet uninhabitable. "Is Man His Own Doomsday Machine?" asked the *Tribune*. The answer to that question may very well be given in the response of the elected representatives of the American people in Congress, who alone have the power to set the course of national policy and action for the protection and management of the environment.

The CHAIRMAN. Senator Tydings. Then we will call on former Secretary Udall.

Senator Tydings, we regret that there was a mixup on the timing this morning. We were right in the middle of a panel discussion, and I knew you were aware of our difficulty, and we appreciate your forbearance.

**STATEMENT OF HON. JOSEPH D. TYDINGS, A U.S. SENATOR FROM
THE STATE OF MARYLAND**

Senator TYDINGS. I think, Mr. Chairman, in view of the late hour and the fact that Secretary Udall has to speak, I would ask that you would incorporate my statement in the record in its entirety and just let me make a few comments.

The CHAIRMAN. The entire statement will appear in the record.

Senator TYDINGS. Mr. Chairman, gentlemen, I introduced a bill on the floor of the Senate which was referred, unfortunately to the Public Works Committee. I will ask unanimous consent to get it re-referred to your committee. It is entitled, "The Environmental Quality Act of 1969." Briefly, it establishes within the Executive Office of the President an Office of Environmental Quality to be headed by a Director appointed by the President.

The Office, as I visualized, would be small and select, with authority to review, clear, coordinate, appraise policies, and projects of the Federal Government which might adversely affect the quality or the integrity of the environment. It would operate in the area of conservation of environment, much as the Bureau of the Budget operates in the field of finance.

It would pull together the activity of Government relating to environmental quality and provide for the overview now lacking and so necessary, as you know, to any rational or creative approach.

I would urge this committee in your deliberations, in your consideration, to give some thought to creating some type of an overview agency that goes beyond just compiling facts and giving advice. Our population is exploding rapidly. Things happen quickly, too quickly for us to be able to afford that luxury. I think you are going to have to establish within our governmental structure some sort of agency with some political muscle.

There are two functions which I would grant to this new agency, whether you call it a Council of Advisers or an Office of Environmental Quality, or whatever you call it. They are, No. 1, the power of review, but, No. 2, more important, the power of delay. The overview agency should have the authority to review, to clear and to coordinate legislative proposals, particularly those emanating from the administration relating to environmental quality. It would thus act in the field of conservation, broadly defined, much as the Bureau of the Budget operates in the area of finance.

Additionally, I would hope that you would consider giving the agency some sort of strength to delay a specific Federal project which in its judgment threatens the quality of the environment of our Nation. Our scientific achievements are increasing so rapidly that much damage can be done in a short time. I think you are going to have to have some sort of an agency or a bureau or office with some political strength.

Now, that is really the thrust of my remarks other than to congratulate the chairman for the initiative in calling the colloquium last

July. I think that was a marvelous idea. It was a great national service. I think your hearings are effective if for no other reason than to alert the Nation to the problems. But I hope that you report out legislation, and I hope that you will consider at least giving the agency or council, or whatever you want to call it, the actual political muscle to do the job, because if you just have advice, I don't think it will serve the purpose that we need.

All you have to think of is that the population in this country will hit 300 million before the end of this century, to realize the resultant problems to the environment. Then you realize that something has to be done to at least give the President an idea of the effect of various administrative activities of governmental activities on the overall environment.

The CHAIRMAN. Thank you, Senator Tydings, for a very fine statement. I read your four points, and I think they were well taken. We appreciate having your support in connection with an effective environmental program. I think a declaration policy standing by itself without some action-forcing procedures will be meaningless. And I take it you share that view.

Senator TYDINGS. Yes, sir.

The CHAIRMAN. We appreciate your kindness in waiting.

Senator TYDINGS. Thank you for your courtesy, gentlemen.

The CHAIRMAN. Thank you very much.

(The prepared statement referred to follows:)

STATEMENT OF HON. JOSEPH D. TYDINGS, A U.S. SENATOR FROM THE STATE OF MARYLAND

Mr. Chairman: I welcome the opportunity to appear before you today and wish to commend you and the Committee for convening hearings on environmental quality.

Certainly few concerns of mankind are as important as this. Yet I do not believe I need to convince anyone here that as a nation and a people we have permitted an intolerable abuse of our environment. Its quality is certainly in doubt. Our waters are polluted, running rich with sewage and industrial wastes. Our major cities have forgotten what clean air is. Roads have been built and housing "renewed" with little sensitivity and a remarkable forgetfulness that we are dealing with human beings. Harmful pesticides are sprayed with an abandon that is truly alarming. The concept of America the Beautiful is now at least open to question as our streets, sidewalks and countryside seem littered with trash and garbage.

To restore and enhance the quality of our environment, I believe there are some four urgent steps which the nation must take.

The first of these is to close the gap between authorizations and appropriations in the spending for natural resource programs. A quality environment costs money. There is no getting around this. You cannot get something for nothing and a quality environment is no exception. The gap is illustrated by the difference between the FY '69 authorization for construction of water quality treatment plants. The authorization was \$700 million; the actual sum appropriated only \$214 million.

The second step to be taken is the acceleration of our basic research in the field of ecology. Simply stated, we need to know more about the effect of pesticides, more about thermal pollution, and more about the impact of sulfur dioxide. But I would like to add a word of caution here. The recognition of the need for additional research is not an excuse for inaction. We know enough now to act, and to act firmly. We need further research, but we need action as well.

The third step required is one of the most important. Our government is not organized to handle the complex problems we face in attaining a quality environment. As Laurance Rockefeller has pointed out our government seems designed for an earlier day. The allocation of responsibility reflects a rural nation concerned primarily with the disposal of public lands and the exploitation of natural

resources. We are just not programmed for a systems approach to an urban society.

What is needed now is an agency whose purpose is to look at the total environment and the manner in which the Federal government affects it. The present piecemeal approach is no longer sufficient. There is little coordination and no overview. Yet we need both.

The bills the Committee is considering today, as well as the legislation I introduced yesterday, seek to achieve this overview. The means chosen vary somewhat, but the objective is the same.

Without this overview our nation will not achieve a quality environment and all of us shall be the lesser for it.

The fourth and final step required to restore and enhance our environment is the declaration of a national policy on the environment. To this end, Mr. Chairman, your efforts last summer in calling together the Joint House and Senate Colloquium between this Committee and the House Science and Astronautics Committee to discuss a National Policy for the Environment are to be commended. The colloquium was an exciting idea and will be, I think, a significant contribution to achieving a quality environment.

The key question to raise, however, is what will this national policy be? It is easy to speak of such a policy; it is much harder to decide upon one.

Nevertheless, I would like to offer the thought that our nation's policy on the environment should be, simply, the creation of a quality environment for all the people.

But what does this mean? What is "quality?" Isn't the phrase deceptively simple and rather vague? These are fair questions and must be raised. I would answer that "environmental quality" is no more nor less definable than "domestic tranquility," "general welfare," "economic prosperity," "social well-being," "national security," and other set policies of this country, either stated or unstated.

One could, of course, take the negative approach and define what "environmental quality" is not. It is not filthy rivers. It is not polluted air. It is not a careless use of pesticides. And it is not "piecemeal government."

I think we would all agree that a more positive approach to the problem is required.

I think it is possible to define the key elements of a national policy on the environment. The term "quality environment" incorporates at least in part, the following:

- *each individual's right to a quality environment.
- *the individual responsibility to contribute to a quality environment.
- *the responsibility of local, state and Federal governments to maintain creatively and carefully such an environment.
- *the government as trustee of the environment for all the people.
- *the consideration of long-term benefits over short-term advantages.
- *the need to enhance our environment, not just maintain or protect it.
- *the environment as safe, attractive, diverse, productive, and prosperous.
- *the need to balance the relationships between technology, population, and natural resources.
- *the recognition that the environment must be considered on an international basis.

An additional element must also be included. There must be within the government an agency or group capable of taking the overview. There must be an office which will ensure that environmental considerations are brought into the decision-making processes of government. The councils created by the legislation before this Committee, as well as the Office of Environmental Quality established by my own bill, are efforts to achieve this.

Finally, we must remember that a policy by its very nature is flexible. To achieve success and longevity it must be both broad and unburdened by rigid and dogmatic guidelines. It must ensure that the right questions be asked. It must be capable of accommodating change. It must offer direction yet speak of aspiration as well.

Mr. Chairman, before concluding I would like to urge the Committee in its deliberation to consider creating an overview agency that goes beyond mere advice. I think it is necessary to establish an agency with some political muscle. And I think the time to do this is now.

There are two functions which I would grant to the new agency, whether it be called a Council of Advisors or an Office of Environmental Quality. They are the power of review and the power of delay.

The overview agency should have the authority to review, clear, and coordinate legislative proposals relating to environmental quality. It would thus act in the field of conservation, broadly defined, much as the Bureau of the Budget operates in the area of finance. Additionally the agency should be able to delay a specific Federal project which threatens the environment. Too much harm has already been done by ill considered, precipitous action, and we need a method to prevent this from recurring. This is one "safeguard system" which we need.

Mr. Chairman, I appreciate the opportunity to testify today and I want to assure you of my full support for your efforts to restore and enhance the quality of our environment.

The Chair is delighted to welcome to the committee the distinguished former Secretary of Interior. This is the first time that Secretary Udall has appeared before the committee since leaving office. I want to say that we all owe you a great debt for what you have done in the area of conservation, as I have noted on many previous occasions. I certainly want to extend to you a warm welcome this afternoon and we look forward to your comments.

STATEMENT OF HON. STEWART UDALL, FORMER SECRETARY OF THE INTERIOR

Mr. UDALL. Thank you very much, Mr. Chairman. It is a pleasure to be with the committee today. I do not have a prepared statement. I apologize to the committee for it. I find I don't have the staff that I once had, and sometimes I don't have the time to prepare the kind of statement I would like. But I do have some comments that I would like to make that I think will be pertinent.

I liked Senator Tydings' reference a moment ago to the need for an overview, and I want to advise the committee, as some of you may know, I am one of the ex-Cabinet officers, and having a very happy time because I am still involved in conservation and in environmental matters. I am heading up a new environmental consulting and planning firm which we have called the Overview Group, and I do believe—

The CHAIRMAN. You would just as soon enact that into law.

Mr. UDALL. That is right. I like that as a term. I want to commend the Chairman of this committee and the members of this committee for the leadership and the interest that they have shown in this whole field of protecting the American environment.

I was interested the other day—I think it is the current issue of Fortune magazine. Edwin Foglemeyer, who has been one of the best writers in recent years on environment issues, said that the only area of our national life as far as the cities are concerned, or as far as the total environment is concerned where the country had done well, done adequately, is with regard to national parks, wilderness protection, and things of that kind. If that judgment is true, much of the credit for that goes to the members of this committee and the chairman of this committee for what you have done in the past.

I believe we reach the point where legislation of the kind you are considering today is most timely, and one of the reasons that the time is right and that this legislation has the kind of support that has been evidenced here today is that one of the phenomena of the Nation today that did not exist a decade ago is a very broad and a very deep concern at all levels of our population over the quality of the American environment.

Without doubt, one of the negative features of our national life is the erosion of the livability of our cities, of the attractiveness and the appeal of the American out of doors.

I noticed just a few days ago the National Wildlife Federation commissioned a poll by Dr. Gallup with regard to the question of the environment, and it turned out there was only a small portion of the American people, I think, something like 10 or 12 percent, that were not concerned or said they had no concern about the environmental problems and the difficulties in which our country is in.

I would like to observe also, Mr. Chairman, that I honestly believe—I said so last year while I was Secretary, I can be maybe a little more candid now—that on balance, when one looks at the total environment of this country moving from the heart of our cities up to the furthest wilderness areas, I think we are still losing the battle. I think week by week we are seeing more bad things happen that diminish the appeal, the beauty, and the livability of our cities and our country than we are seeing positive things which are arresting deterioration and pollution and erosion.

I believe our cities are substantially less livable, most of them, than they were a decade ago. Our air and water is more polluted and not less. And I think beauty is still being sacrificed much too often.

So I want to commend the committee. I think the focus on this legislation is right. I am very pleased that we talk today, not as we did a decade ago about resources alone, as important as resources are, nor do we talk about conservation related to Nature alone, as important as that is, but we are trying to pull together so that man thinks of what man does, of the manmade part of the world and of the world that Nature constitutes as part of a single system, and we see these inter-relationships. And I think the purpose of this legislation, as far as I am concerned, is very much right in its focus and its emphasis.

One of the things that we realized a little bit late in this country during the postwar period—indeed, it goes back beyond World War II—was that one of the leading phenomena both in this country and worldwide was an immigration to the cities. Today, which is the reverse of 70 or 75 years ago, 70 percent of the people live in the cities. This is where most of the problem centers, and this is the reason that when we talk about the environment we have to think of the cities as well as the countryside.

I would also like to say that I can't discuss this issue without linking it in a very direct way with what I believe is a need for new national priorities with regard to the future. Certainly if we look at this period of the 1960's (the areas that in the main have been, I would say, well treated and well financed have been our defense and military activities and space. We have kept the space program on the target. I have always thought we were rich with regard to the money we are investing in highways as compared with many other activities that we are trying to do, both with regard to transportation and environment.

To give you a few ideas that indicate how I think the environment and its quality have been starved, when I think back to the total amount of money in the 8 years that I was Secretary that we spent both for open space in cities and all of the money that we spent out of the conservation fund over the last 5 years to save parklands, forests, and city parks—I haven't added it up, I asked somebody to do this for me

and they didn't get the job done—but I would judge that the total amount of money that we spent in this area in particular for land acquisition and development certainly is substantially less than half a billion dollars. In other words, it amounted to a small fraction of the space budget (to use one example), for a single year, or of the highway budget for a single year.

Those of us who are worrying about the environment every day believe, at least I do, that next to the control of nuclear weapons, population pressure and unlimited population growth is probably the No. 2 problem that mankind faces. I think it is a very crucial problem we face in this country, and yet the total amount of money that we are spending this year, both here and abroad, in population control, is something in the neighborhood of \$30 to \$40 million; in other words, a mere pittance when you realize we are talking about the problems of the cities.

Think of this a moment in terms of what it says for national priorities. We spend as much for chewing gum as for the model cities program. The ladies spend as much for hair dye as we are spending for urban mass transportation systems. We are spending more for pet food than on food stamps for the poor. And I could go on.

The point I am trying to make is that I think that if we are really concerned about doing the things that must be done across the board to make the cities more livable, to tackle pollution head on, to do the conservation work that we must do, we are going to have to have a significant upgrading of these activities in terms of our national priorities.

And it is my belief, therefore, that this legislation is particularly timely and that the idea of ecological studies that are proposed by the Department of the Interior, and particularly the legislation that would set up a National Council on Environmental Quality, I think if I had my way I would call it a Council of Environmental Advisers, perhaps, but whatever we call it, it seems to me that this is certainly a very important time to discuss this, because I believe the Nation has ahead of it, in the immediate years ahead, the best opportunity that it has had in the entire postwar period to look at its national priorities and its national needs and perhaps to reshape them.

One need only look at how painful the current situation is with regard to funding some of our vital environmental programs. And I can speak to both sides so no one will accuse me of a political comment here, but both President Johnson's last budget and President Nixon's new budget which he submitted yesterday, in both instances instead of increasing the amount in the conservation fund that this committee provided last year by earmarking moneys from the Continental Shelf to double the amount of money we would put into the conservation program that has been saving so many places in all of the 50 States, this amount of money is either cut back or kept in status quo. And this, again, is an indication of the trouble we have with national priorities.

The reason I believe that this is a very appropriate time to act in this field and to have a council to advise the President to play tennis with the Congress, to educate the country, is because I believe we are now going through with this, and we have an unmatched opportunity to reassess our national purpose and our national priorities.

Let me just kickoff the facts that I believe lead to this opportunity. There undoubtedly is going to be some kind of phasing down of the Vietnam war. We are going to be successful this year, I am sure, in our space effort. The question then before the Congress and the country is what our second phase is in those areas and whether we are going to spend more or less money in space and more or less on the earth, shall I say.

There has been a very definite slowdown in population growth in this country, and for one I think we ought to welcome this. I think if this trend continues we are not going to have a doubling of population in this country, and we may even slow down to the point that we can get on top of some of these problems that now have us by the throat.

A Department of Agriculture report recently was very encouraging, indicated that the emigration off the farms has stabilized and that there is indication we may have come to the end of this period of migration off the farms and into the cities. And in addition to that, when one adds the circumstance that we are now approaching 1976, in our third century of the nation, we have, I think, an unmatched opportunity to remake our national priorities.

So I want to say to the chairman and the members of the committee, I am enthusiastically in favor of both sections of this legislation, certainly, the importance of sound resource planning in ecology and ecological studies, I think we all recognize that now. I have felt that for the last year or two, both while I was in the last administration and outside, that the idea of a council on the environment to advise the President, to work with the Congress, to work with the country, would be a very vital contribution at this point.

Let me just look for a moment at the history of the other similar council, the Council of Economic Advisers, which was established right after the war. Some of the Senators sitting here helped formulate that legislation. The idea, of course—we were looking back over our shoulders at the depression—is that we wanted to set out as part of our national purpose that we were not going to tolerate serious depressions. We wanted to have a full-employment economy. We wanted to have as a national goal that our economic system would function efficiently.

And so we set up a council, and it has operated now for nearly 25 years. Of course, any council, we should recognize, is only as useful as a President wants to make it, if it is an advisory council, and Presidents must be concerned and they must care or the advice of a council isn't of much use. But I believe the history of the Council of Economic Advisers proves its worth. I think all of our Presidents have leaned on it for advice.

It has served to do much of the advance planning. It has monitored the week-by-week progress to see how the economy was functioning. And it seems to me the experience of this Council would indicate that if a Council on the Environment were to have similar encouragement and success, that it could function with equal effectiveness in terms of furthering national needs and national priorities.

How would such a Council function, I have asked myself. It seems to me that, in the first place, since it would not be tied in with a department that is concerned with all of its territorial imperatives and its programs, that it could look down the road, exercise foresight, be

constantly concentrating on these larger problems of national needs and national priorities, and try to resolve conflicts perhaps before they arise, to anticipate controversy. It would be a full-time agency looking toward solutions and trying to think about policy problems and shape them for decision by the President. It would also educate the country. It could be, in addition to that, a first line of defense for those who are fighting against the further erosion of the environment.

I merely want to say, Mr. Chairman, one or two other thoughts that I have about such a Council. I would think or would hope that its composition, if it were established, would be very broad in recognition of the total environment concept. I think it would be as much or more urban-oriented than back-country-conservation-oriented, one might say.

The Council of Economic Advisers is made up, naturally, of economists. As to the advisers of such a Council as this one on the environment, I would hope you would have people who are distinguished in the field of nature and the natural sciences, such as ecologists, biologists, people like that. Certainly, we would need urban experts, perhaps a person like Ed Lowe, a Lawrence Helprin, someone of that kind, involved with urban design and the urban environment, and perhaps even an engineer. We are beginning to develop engineers that are very sensitive to environmental values, or we could have an economist such as Dr. Kenneth Baulding of the University of Colorado.

In any event, such a Council could focus on the question of population policy, population increase, recycling of wastes, what I have called civilizing our technology. They can also, for the President, scrutinize existing programs and point out where programs are not functioning well or where they are becoming obsolete or where new policies are needed. In other words, this Council could have a very creative function. And I want to reiterate, I for one think it would work and I think it would be highly successful.

I only want to add, Mr. Chairman, one final thought, and I don't have quite the trepidation I had a few months ago in telling Congress what it should do. It seems to me that one of the incidents or one of the ways in which the Council of Economic Advisers in its annual report has served the country very well in that there is a joint House-Senate committee, the Joint Committee on the Economic Report that every year receives a report of the committee, discusses the economy, discusses economic policy, and usually for a month or 6 weeks holds public hearings, and you have in that a broad-scale discussion each year of economic policy. And so I would like to see and suggest—we might even look back on it and feel that the colloquium held last July was maybe the first of these meetings, that this is another area. I don't like to recommend that Congress proliferate permanent committees. This would have to be, of necessity, however, a permanent or semipermanent committee that would be the counterpart in the Congress of this kind of council.

And I believe that once a year, if we stop for a month or 6 weeks and the Nation assesses its progress, assesses the new developments and trends, the policies, the decisions that are before the country with regard to the quality of the work involved, that this would be a very helpful thing. Myself, I would like to see the Congress play a strong role, and I think a way to do that would be to have a joint committee.

The other thing I might point out, because it was very clear to us

that the colloquium last July showed that this question of environmental quality touches a half dozen committees in the Senate and House. There are many Members of Congress—you are not alone on this committee—who have keen and deep and live interest in this.

I believe that a joint committee, therefore, could serve as a national forum and could help make this work even more successful than it would work otherwise.

These, Mr. Chairman, are some of my thoughts, and I want to end as I began, by saying that I am very pleased to be back here with the committee again, and to commend this excellent legislation.

The CHAIRMAN. Thank you, Secretary Udall, for a very fine series of comments on the matter now pending before the Committee. I especially welcome your remarks about the governmental structure problem. I think this is a key to whatever we do. Our task is to redefine at least a portion of the Government structure, to bring about an action-forcing procedure that will bring environmental considerations into the new programs that are constantly coming before the Congress. And in addition, to commence to do something about the problems that are already in being.

If we can slow down the effluent process that is now underway and has been for some time, but increasing at a progressive rate, we will have brought about a major accomplishment.

I think your comments as a former Congressman, a distinguished Secretary from the standpoint of the governmental procedures have been very helpful to me, and I want to compliment you very much.

Senator Anderson.

Senator ANDERSON. I don't have any questions. I just want to express my thanks to the Secretary that he has been able to be back here for a short time with us.

The CHAIRMAN. Senator Jordan.

Senator JORDAN. Thank you, Mr. Chairman.

It is good to have you back. Mr. Secretary, and I want to join the Chairman in appreciation of your contribution of the environmental problem. You gave us a new thought here in adapting some of the ways we handle Joint Economic reports through a Joint Economic Committee, and I think this has merit. It is in line with my own thinking. The reason I like it, I guess is because I do serve on the Joint Economic Committee, and I find that the busiest 6 weeks or 2 months that I put in in the whole session is then, but I think much good comes of that. And this is a very important airing of the divergent views; we don't always agree, we usually come out with a majority report and a minority report, but it gets ventilated. The economic reviews, the economic ideas of the President's Council of Advisers get very well aired through the national media of the press and radio and television, and I think the same kind of advantages could come from like treatment of this problem that we have.

I commend you for it.

Senator ANDERSON (presiding). Thank you, Mr. Secretary. Thank you very much.

Senator Moss.

Senator Moss. Thank you, Mr. Chairman. I, too, welcome the former Secretary back to this committee. It seems like old times to have him here, and as always you have come up with a very constructive and

positive recommendation. Your recommendation of a National Committee on Environment certainly strikes a responsive chord.

I have felt for a long time, as you know, that one of our problems in not dealing with the environment is that we have permitted our resources areas to be fragmented among the Government departments. As a problem arises that we think we should tackle, the Congress has tended to put it in one place, and another place, and so for a number of years I have been introducing a bill to bring together all these environmental problems into one department so we could focus on one responsible head to give us guidance. And I wonder if you have any comment on that, as to whether that would contribute to the solution of this problem, or whether it is unnecessary.

Mr. UDALL. Well, Senator, I think again I can speak with a little less constraint than heretofore, and I would see as part of a process of operating with greater efficiency, of streamlining our governmental institutions and agencies, so that it is easier to get decisions made and to have resource policies, for example, that are coherent, to have a department that would have in it the main functions of resource management and conservation.

How this is done and the method by which it is done is another question, but I am sympathetic, and I am sure you realize that, with the basic idea of your legislation. I would see this, also, as the logical step that could be taken simultaneously with the other steps proposed in Senator Jackson's bill.

Senator Moss. Well, speaking of environment, we are speaking of the relationship of all of our natural resources, and the purpose of the Council, if it is established, is to be able to overview them all. If we had them gathered for action under one department, it probably would facilitate the preservation and utilization of our environment consistent with the long-term well-being of our country and our population, in my opinion. I gather that you agree that this, at least, appears to be a desirable step.

Mr. UDALL. Well, Senator, let me simply add that I think nothing did more for the Department of the Interior historically while I was there than the fact that we did strengthen its function and broaden its responsibilities. I refer particularly to the setting up of a Bureau of Outdoor Recreation that deals with the entire country, with all of the States and all of the cities, and the fact that Congress went along 3 years ago with President Johnson's recommendation to transfer water pollution control from Health, Education, and Welfare to Interior. I think this is the right kind of focus for action, and I think these were two very good things.

We can see now, just in retrospect, that they helped the Department work more meaningfully and more nationally in terms of its function.

Senator Moss. Thank you very much, Mr. Udall.

Thank you, Mr. Chairman.

Senator ANDERSON. Thank you, Mr. Secretary.

Mr. UDALL. Thank you.

Senator ANDERSON. Mr. McCloskey.

STATEMENT OF MICHAEL McCLOSKEY, SIERRA CLUB

Mr. McCLOSKEY. Mr. Chairman, my name is Michael McCloskey. I serve as Conservation Director of the Sierra Club, and I am speak-

ing for it here today. We shall address our remarks primarily to S. 1075 and proposals for a council on environmental quality. We are pleased to offer our strong support for S. 1075, which would establish such a council and provide for ecological surveys. We want to commend the sponsors of legislation of this type for these far-sighted proposals.

The Sierra Club, which is a national conservation organization of 75,000 members, traditionally has been preoccupied with saving especially unique and scenic wildlands. We still are working at this task. However, this work is being outflanked by the general deterioration in man's habitat and the outright destruction of the habitat for so much other life on this planet. Recently we expressed our alarm over these facts in a full-page advertisement that we ran in a national newspaper. We thought the time had come to communicate our anguish to a broad audience, and did so in these words:

I. The Moon, Mars, Saturn . . . nice places to visit, but you wouldn't want to live there.

Any moment now, Man will find himself hurtling around in an Outer Space so enormous that descriptions of its size only boggle the mind. (One attempt has put it this way: The size of the Earth is to the size of the known Universe as a germ is to our entire solar system.)

Yet, we already hear excited talk of locating, out there, a planet that duplicates the natural environment on Earth, i.e., trees, flowers, water, air, people; you get our meaning.

The fact is that if we do find such a duplicate Earth out there, it may be some thousands of years from today. Until then, the only place in the Universe that will feel like home is Earth, unless *your* idea of home life could include setting up house on space platforms, or the Moon, or taking your evening walk with oxygen helmet and space suit.

We haven't got used to thinking about it this way yet, but, as Astronaut Borman pointed out—for us people, Earth is a kind of inhabitable oasis in an unimaginably vast desert.

Also, Earth is a strange sort of oasis, in that quite apart from providing us what we need to live—water, air, sustenance, companionship—this oasis actually *grew* us and every other life form. We are all related.

Darwin, during his famous Galapagos journey, found all life on Earth—from plankton to people—to be part of an incredibly complex interwoven and interdependent blanket spread around the globe. There is no loosening one thread in the blanket without changing the stresses on every other thread, or worse, unraveling it.

So then, if it is life on Earth that most of us are stuck with for the next little while, we had better consider the consequences of what has recently been going on there.

II. Toward a more Moon-like Earth.

There was not always enough oxygen to support the existence of Man. It wasn't until green plants and certain ocean plankton had evolved that the natural process was begun by which oxygen is maintained in the atmosphere: photosynthesis.

Man, one would think, has a stake in assuring that this process continues. Consider then, these bits of news:

—In the U.S. alone, oxygen-producing greenery is being paved over at a rate of one million acres per year and the rate is increasing. Also, paving is contagious. Other countries are following suit.

—The oceans have become the dumping ground for as many as a half million substances, few of which are tested to see if the plankton we need can survive them.

—New factories, autos, homes, and jet airplanes have incredibly increased the rate at which combustion takes place—i.e., at which oxygen is used and replaced in our atmosphere by carbon dioxide and carbon monoxide.

The result is a kind of Russian roulette with the oxygen supply. Dr. Lamont C. Cole, ecologist, Cornell University, New York, has said this:

"When and if we reach the point where the rate of combustion exceeds the rate of photosynthesis, the oxygen content of the atmosphere will decrease.

Indeed there is evidence that it may already have begun to decline around our largest cities."

There is a bright side: If we should continue what we're doing, overpopulation will cease to be a problem.

STERILE

In only 25 years, traces of DDT have found their way into the average American to the extent of eleven parts per million. They are also found in animals, birds, fish and recently, in notable quantity, in the fatty tissues of Antarctic penguins. (If you wonder about the consequences, similar pesticides have already made sterile a species of hawk and owl in England. Here is the way it works: insects eat sprayed plants, small birds eat them, and then big birds eat *them*. By that time, the insecticide has been concentrated many-fold and the big birds are in big trouble. Now, if we humans were in the habit of eating owls and hawks . . .)

Aside from the toxic effects on Man and other animals, pesticides like DDT and newer more voguish chemicals eliminate whole populations of certain bacteria and pest organisms.

However, and here is the shocker, *no one in the world knows, when we aim at a particular pest, which other organisms may be eliminated by ricochet*. Someone had better find out.

If some pesticide, herbicide, or defoliant should by inadvertence kill too many of the "nitrogen-fixing" organisms—these organisms that enable living things to make use of the nitrogen in the atmosphere—*then life on Earth could end*.

It is that dependent and fragile.

RAMPANT TECHNOLOGY

The Aswan High Dam was dreamed up to prevent the Nile from overflowing its banks as it had yearly throughout history. (It was thought such a great idea that countries vied for the honor of helping build it; the U.S. foremost among them.) The goals were electricity and year-round irrigation, thus greater productivity. No one, including the U.S., thought much about certain *side* effects, which may ultimately prove the most important:

—Since the natural floods have been halted, life-giving nutrients that were formerly delivered to the land and the Mediterranean Sea are now piling up in a reservoir above the dam, unusable.

As a result the Eastern Mediterranean sardine fishery is already doomed.

As for the land, the lack of nutrients, plus the water-logging caused by old irrigation, plus salinization, *may actually decrease productivity*. Newly irrigated lands have the same fate in store.

—A particular snail has begun to thrive in the warm irrigation canals. The snail hosts a worm which causes schistosomiasis, a debilitating, often fatal disease. In one region around the dam, the incidence of this disease used to be 2%. It has now risen to 75%.

—At Aswan, we may also see repeated the awful developments at Kariba Dam, East Africa. At Kariba, rafts of hyacinths and reeds have spread over much of the reservoir's surface. It has been estimated that if this growth should cover just 10% of the reservoir at Aswan, the plants could actually transpire into the desert air enough water to stop *all* flow into the lower Nile.

Looking at the bright side again: In a few centuries, the dam will fill up with silt, and end its useful life. Then, the river will flow right over it, creating a huge, perhaps lovely, waterfall. Tourists will enjoy the view.

MORE IMPROVEMENTS

Engineers are improving things everywhere:

—In Alaska, a \$2 billion dam is proposed—to bring power to non-existent industry—which would flood a wilderness and nesting region the size of Lake Erie.

—In Brazil, engineers propose an Amazon dam that would flood a green area as big as Italy.

—In Southeast Asia, a series of proposed Mekong River dams may do for Laos, Thailand, and Vietnam what Aswan is doing for Egypt. *Every* country should be spared such improvements.

III. *A wildlife preserve where we are the wildlife.*

The speed with which our world is being altered is so rapid that there is not cataloguing it; it is everywhere . . . forests are gone, hillsides eroded and bull-

dozed, waters filled, and air and water polluted. The implicit assumption is that Man is the Master of Nature, and that losing a wild place or species or plant is of no great importance to us, and never mind the esthetics. But as we have shown, tinkering with the natural order of things can be a dangerous business, *for there is a need to think of the organic wholeness of nature, not man apart from that.* Man's vanity notwithstanding, he is irretrievably intertwined with everything on his planet and therefore must proceed with a degree of caution, until, at last, he has the option of actually leaving Earth.

If, before then, we should so alter our environment that we rid it of ingredients we need for life, then *we* will merely pass the way of other life forms that have become extinct for one reason or another. And, as humbling a thought as it may be, Nature might scarcely miss the people. Things might eventually get back into their own pattern, the natural order reviving. Plankton might evolve; oxygen might re-form in the atmosphere; grass might grow through the pavement and among tumbled columns as it has before.

With all this in mind, you may see that we, the 70,000 member Sierra Club, the groups we work with, and the critical publishing project you see outlined at right, are not so much proselytizing on behalf of Nature. In due course, Nature will take care of itself.

Our motives are more selfish, in fact. They are on behalf of our very own lives and the lives of our children who, we feel, have not only the right to live but also the right to live in a world that maintains the natural order enough to continue to feel like home."

As the ad makes clear, man is manipulating his habitat with unprecedented speed and force, and in the process is creating a multitude of unintended results which degrade the shared environment on which all living things depend. Advancing technology, the mobilization of growing capital resources, and the increasing size and skill of units organized to manipulate the environment are all creating an environmental crisis. The crisis comes in many forms:

(1) Continuation of old patterns which are no longer producing desirable results but nightmarish predictions; such as the unchecked growth of worldwide population; (2) emergence of new functional problems we are not organized to handle, such as solid waste disposal, and other basic problems of concentrated urbanization: transportation, blight, and decay; (3) insensitive pursuit of missions with heedless disregard for side effects which we can anticipate but do not avoid. Traditional programs thus product a continuing loss of prime farm land to urbanization, destruction of wildlife habitat and the extinction of species, disappearance of scientifically valuable natural areas, filling and dredging of productive estuaries, drainage of wetlands, obliteration of the land through stripmining, deforestation and soil erosion, water and air pollution, ground water depletion, saturation of irrigated land with salt, flooding of valuable river bottoms, surrender of more and more landscape to freeways, and defacement of the landscape by billboards, power lines, junkyards, open pits, and the clutter produced by excessive laissez-faire.

New programs are emerging, too, with detrimental side effects that can be anticipated: thermal pollution from large nuclear and steam power plants, radioactive releases from tests, nuclear plants, and disposal of nuclear wastes, and noise and stress problems stemming from the supersonic transport. (4) Finally, a variety of activities produce harmful side effects that were not anticipated: stress caused by crowding, smog produced by automobile emissions, spills and leakage from off-shore oil wells, detergents which degrade too slowly or not at all, long-lived and pervasive pesticides which concentrate in certain species, disruptive introduction of exotic species, and accelerating spread of carcinogens, accumulation of lead in the atmosphere, the prospect

of an oxygen deficit with consumption growing and production impaired, the unpredictable impact of weather modification, and the contrary possibilities of rising world temperatures as a result of carbon dioxide build-up or falling temperatures as a result of smog and jet contrails.

The emergence of these problems clearly shows that our existing institutions and programs are not adequate. Admittedly, our market economy has been remarkably successful in producing goods and services to meet man's most immediate needs.

Where necessary, government has intervened to provide basis buttressing for many of these market activities, as through irrigation and highway programs. To a limited extent, government has intervened also to mitigate adverse effects where they could be anticipated, as with soil erosion and forestry programs, and more recently with air and water pollution abatement programs.

However, where man's less immediate needs are adversely affected, and the effects are widely disseminated and hard to anticipate, little is being done.

It is now necessary, therefore, to supplement the contributions of the market economy and the programs of many narrow mission-oriented agencies with a third effort which will concern itself with the quality of widely shared extra-market values distributed throughout the entire biophysical environment.

As a first step toward organizing such an effort, it is necessary that the state of existing knowledge be improved. There should be an institutional focus for drawing together environmental information about the consequences of projecting traditional patterns, the emergence of new crises, the cost of perpetuating traditional programs with unwanted side effects, and ways of detecting unforeseen side effects that stem from technical innovations.

A Council of Environmental Quality would provide such a focal point. The Council should be equipped to monitor and survey the environment so that it can discover significant relationships and trends. Through such discoveries and improved understanding and foresight, the Council should be in a position to recommend remedial and preventive action.

In performing its function of surveillance, there are certain problem patterns that it should especially look for: incompatibilities between programs; abrupt changes in trends or the pace of change; irreversible tendencies in trends; large accumulations of small incremental changes; stockpiling of trace elements; persistence of fugitive substances; random interaction of substances and forces in a reinforcing, or synergistic, fashion; and the loss of unique and irreplaceable places and things.

In analyzing the data thus derived, the Council should attempt to relate the information it obtains in a comprehensive framework, developing models of systems wherever possible. In this manner, it should discover gaps in our knowledge and data which should be filled. The Council should encourage performance of preconstruction and post construction audits to determine the environmental impact of large construction programs. In analyzing impacts, the Council should determine how much margin of error we have in environmental impacts, and try to judge whether the risks are warranted by the benefits.

Through early detection, the Council should give us the maximum leadtime to ward off undesirable side effects. And finally, the Council's analyses should tell us whether the answer lies in improving the efficiency of existing programs or in curtailing and redirecting them. In some cases, lack of coordination may be the problem; in other cases ignorance or simple lack of concern may be the problem.

It is important to recognize that needs of environmental quality cannot be met simply through expanding traditional resource planning programs or by improving economic or administrative efficiency. We are not involved here in meeting target goals for the production of commodities; we are not involved in inventorying natural resources and predicting consumption requirements; we are not involved in working the "bugs" out of new programs; we are not involved in reducing proliferation and duplication among agencies; we are not involved in saving the taxpayers' money. These aims may incidentally be met as a result of the oversight function of a Council of Environmental Quality. But that function must be defined by the inherent needs of a healthy environment. Coordination and simplification may or may not be the answer. In some cases, we probably need to change our goals and to curtail present programs. Before we can know, we must first get the facts.

This is what a Council of Environmental Quality, in our estimation, should do, and it should do this in the most comprehensive and unbiased way possible. For the Council to have the most comprehensive view possible, it is important that it be lodged in a place that affords the most commanding view and that it have access to data compiled by all other agencies. This consideration suggests that the Executive Office of the President is the proper place for the Council.

This suggestion is reinforced by the need to keep the Council as unbiased as possible. If the Council is housed in any operating agency or institution, it cannot escape being influenced by its outlook and defending its programs.

The need to keep the Council free of justifying programs and decisions also suggests that it should not be vested with any authority to make decisions. Obviously its warnings and recommendations should receive careful consideration, and hopefully many of them will be adopted. But the proper instrument for responding to its recommendations may vary immensely with the nature of the problem.

In some cases, the President may have authority to act, and he may sometimes choose to do this through inter-departmental coordinating committees. In other cases, the decision will have to be made by Congress, and in still other cases the decision may be up to State and local government or private parties. We firmly believe that better mechanisms for responding to environmental crises must be evolved, but it will probably help insure a sounder basis for action if the functions of oversight and analysis are kept separate from the functions of authority and political responsibility.

The need for independence might suggest that the Council should not even be housed in the Executive Office of the President, but should be an independent commission. While this possibility has some appeal, it is offset by the difficulty such a commission might have in gaining cooperation from agencies in the executive branch and by the fact that such a commission would have difficulty in attracting the atten-

tion of the President. While the President may not always have sufficient authority to implement the recommendations of the Council, his support will always be important and it probably will be appropriate for him to act in more instances than any other body.

The need to strike a balance between independence and influence with the President raises the question of whether the members of the Council should serve at the pleasure of the President or should serve for staggered terms. By serving at the pleasure of the President, the members presumably will command his confidence, but they may also be unduly circumspect in criticizing programs of the Administration.

Moreover, the Council would lack continuity through changes in administration. If the members of the Council, on the other hand, serve for short terms on a staggered schedule there would be continuity through changes in the Presidency and its members might be more emboldened to take issue with administration programs they feel unsound. In any event, a President would be able to achieve a majority of his own appointees sometime past the midpoint of his first term. On balance, we feel it is probably preferable, therefore, to have the members serve for short, staggered terms and would suggest that S. 1075 be so amended.

We note that there is a difference of opinion over the desirable size of the council, and that some have proposed advisory committees for the Council also. If the Council were to have decisionmaking power, we think there would be considerable merit to proposals for enlarging the Council and providing it with an advisory committee.

These steps would serve as "checks and balances" to make sure that valid points of view were not overlooked, and would serve to impede hasty action. However, we believe the Council can be most effective if it is merely a study and oversight body. It should not be impeded in its studies by complicated internal "checks and balances." Necessary "checks and balances" should be external to the Council, and will be provided by the normal political mechanisms.

We believe that the three man Council that S. 1075 provides is the most efficient size. Increasing its size to five, as some have suggested, will greatly increase the complexity of the pattern of communication and interaction among the members. While some have suggested that a larger membership is needed to assure representation of enough disciplines, we cannot possibly see how even a membership of five would represent an adequate mix of disciplines. The only solution which seems practical to us is to build a sufficient support staff containing a proper distribution of disciplines, and to look for Council members who are valued as generalists with particularly useful insights and experience that they can offer. In this regard, we would not suggest any more specific standards of qualification than S. 1075 provides. In the new and changing field of environmental quality, the President should have great leeway in picking men of broad professional experience.

As S. 1075 is presently drafted, a degree of ambiguity pervades the description of the Council's specific functions. It is not clear what the balance is to be between its analytical functions and its responsibility for making recommendations.

A companion bill by Senator Nelson, S. 1752, would make program formulation the Council's principal duty, while S. 1075 specifies analy-

sis as its primary function. Senator Nelson's bill calls for the Council to submit recommendations for a national program in 4 years.

Similarly, an ambiguity surrounds the character of the reports the Council is to make periodically to Congress—and, incidentally, it is not clear whether these are to be annual or biennial reports (cf. sec. 202(c) of S. 1075 with sec. 203). The bill is exceedingly vague in setting forth the frame of reference to be used in evaluating the status of environmental systems and the trends affecting them.

We understand that thought is now being given to including a general statement of policy in the legislation. We think inclusion of this additional element would be most helpful. Inclusion of a policy statement would make it less necessary for the Council itself to produce a general policy statement to recommend to the President by some fixed date in the future. A broad policy statement from Congress would give the Council direction from the outset, and would provide a general goal for all Federal programs.

Moreover, a policy statement would provide a yardstick by which to measure the data gathered in the status and trend reports. By having a policy framework for its analytical work, the Council would be encouraged to surmount the danger of limiting itself to the unproductive task of merely forwarding the Congress compilations of undigested statistics. In tying status and trend reports to a policy goal, the Congress should make it clear that it wants interpretation and evaluation in these reports and stress upon significant indicators. Only if this is done, we feel, will the Council's work prove to be useful to the President, the Congress, and the public.

We believe the description of the environmental crisis that we provided in the beginning portion of this statement provides material which could be readily adapted to provide a basis for a general statement of policy.

Accordingly, we urge that this policy statement focus the definition of environmental quality on "the need to protect extra-market values associated with life support systems from unintentional degradation."

Undoubtedly, the concept of environmental quality also embraces market valued functions and intentional effects, but there are other organized ways of dealing with these aspects of the problem. The need is to focus attention on the more subtle aspects of the problem which thus far have been almost nobody's business. We feel it is time to make them paramount business of the Nation. If we do not, we shall all suffer the consequences in ways that will be increasingly less subtle.

In conclusion, let us stress, too, the importance of title I of S. 1075. We have expressed our strong support in the past before this committee for stepped-up ecological studies and an expanded system of natural area. Only through such studies, and ample research in a widely diversified system of natural areas, can we develop the basic knowledge to understand what we are doing to the environment.

The ecological research that title I would encourage can provide an increasingly sure footing for the broad analyses of the Council on Environmental Quality. We would suggest, however, that clear authority be provided for maintenance of a coordinated Federal system of natural areas and that there be clear direction to the Secretary of the Interior to foster development of systems of natural areas in

the hands of non-Federal entities (see subsecs. (8) and (9) of sec. 201 of S. 1805.)

Thank you, Mr. Chairman.

Senator ANDERSON. Thank you very much. I am sorry to have had you wait so long to make your statement. It is a very good statement.

Senator JORDAN?

Senator JORDAN. I have no questions. It is a very fine statement, certainly.

Senator ANDERSON. Mr. Clapper.

STATEMENT OF LOUIS S. CLAPPER, DIRECTOR OF CONSERVATION, NATIONAL WILDLIFE FEDERATION

Mr. CLAPPER. Good afternoon, sir.

I am Louis Clapper of the National Wildlife Federation. I would like to present my statement in full for the record and just make a few remarks for the record, if that would be all right with you.

Senator ANDERSON. Without objection, that will be done.

Mr. CLAPPER. My identification is in the statement that you have.

I should like to express the interest of my organization in the legislation before you. The National Wildlife Federation wanted to see what the average U.S. citizen thinks about environmental problems. As a consequence, we commissioned the highly respected Gallup Organization, Inc., to develop a survey of public attitude on this subject. This is the survey former Secretary Udall referred to that has been made available to the committee. This survey reveals that more than three-fourths of the people are concerned about the quality of environment and nearly three-fourths of those interviewed were willing to pay something in additional taxes to improve our natural surroundings, and to protect them.

We agree with the staff report of last summer that there is always a cost for using the environment, and we hope that these bills will result in a national policy to determine when the costs will be paid, how, and by whom. Therefore, we agree with the need and the desirability for a Council on Environmental Quality, as well as for a congressional oversight committee of some type.

Finally, Mr. Chairman, we hope that the committee will give attention to a conservation bill of rights, insuring citizens to a right to an unpolluted environment. We think these bills that have been introduced in Congress will work toward that end, and we hope that you will look them over and give them your favorable action.

Senator ANDERSON. Thank you. That is a very fine statement.

Senator JORDAN.

Senator JORDAN. No questions.

(The statement referred to follows:)

STATEMENT OF LOUIS S. CLAPPER ON BEHALF OF THE NATIONAL WILDLIFE FEDERATION

ECOLOGICAL SYSTEMS AND ENVIRONMENTAL QUALITY

Mr. Chairman, I am Louis S. Clapper, Director of Conservation for the National Wildlife Federation, which has national headquarters at 1412 Sixteenth Street, N.W., here in Washington, D.C.

Ours is a private organization which seeks to attain conservation goals through educational means. The Federation has Affiliates in 49 States. These Affiliates,

in turn, are made up of local groups and individuals who, when combined with associate members and other supporters of the National Wildlife Federation, number an estimated 2½ million persons.

We welcome the invitation to make these comments.

The National Wildlife Federation is pleased exceedingly at the awareness and concern which so many members of the Congress are expressing about damage to the environment. This concern is being reflected in many ways, including the introduction of bills such as those under consideration here today. And, our organization is hopeful that many of the proposals can attain final fruition and will be enacted.

Mr. Chairman, since its very inception in 1936, the National Wildlife Federation has been concerned about the environment. Various conservation problems, including the urgent need for water pollution control, were discussed in this initial annual convention. Since that time, our interests have been broadened into the total environmental picture. Overall, the National Wildlife Federation continues in its firm belief that contamination of the environment by water and air pollutants, by toxic chemicals, by solid wastes, and by noise, along with unwise practices relating to the extraction of minerals, the harvesting of timber, and grazing of livestock and protection of endangered wildlife, constitutes the major natural resources problems of the age.

Conservationists sometimes have been accused of talking only to themselves and, occasionally, at least this may be true. However, the National Wildlife Federation wanted to see what the average U.S. citizen thinks about environmental problems. As a consequence, we commissioned the highly-respected Gallup Organization, Inc., to develop a survey among a representative sample of the public. This survey was completed in late February of this year (1969). Here are some of the highlights:

About half (51%) of all persons interviewed expressed the opinion that they are "deeply concerned" about the effect of air pollution, water pollution, soil erosion, and destruction of wildlife in our natural surroundings. An additional one-third (35%) are "somewhat concerned."

Nearly three-fourths of those interviewed were willing to pay something in additional taxes to improve our natural surroundings.

Three of every four persons favor setting aside more public land for conservation purposes such as national parks, wildlife refuges, bird sanctuaries, etc.

The public is almost evenly divided on whether or not it will, at some time, be necessary to limit the human population if present living standards are to be maintained.

Summarizing this survey, Mr. Chairman, we conclude that the American public appreciates quality in the environment, deplores what is happening to it, and stands ready to support corrective measures, even to the extent of paying for it—as they will, one way or another, in the end. Copies of this survey are being made available to the Members of this Committee.

We were tremendously impressed by the special report developed for this Committee, "A National Policy for the Environment," and printed on July 11, 1968, for the informal joint House-Senate colloquium last summer. We agree wholeheartedly with the observation that: "What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment," as stated in that report. We also agree that there is a significant need for a national policy for the environment, also as stated in that report, to determine *when* payment for use of the environment is to be made, *in what form*, and *how* the costs are to be distributed. Subsequently, of course, this Committee joined the Committee on Science and Astronautics of the House in the issuance of a Congressional White Paper on the subject, and it was dated October, 1968.

And, now, Mr. Chairman, we are pleased that this Committee is studying S. 237, S. 1075, and S. 1752, which deal with the questions of ecological systems, natural resources, and environmental quality. In some respects, these bills appear to have a genesis in a proposal offered by the late Senator Murray in 1959. And, in some respects, these bills show an evolution and relationship to the aforementioned white paper.

Speaking principally to S. 1075, the National Wildlife Federation is in agreement with the stated purpose to promote and foster means and measures "which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources." S. 1752 speaks of a national policy along this line. S. 237 declares it is the continuing policy and responsibility of the Federal Government to create and

maintain the quality of the environment, and we like the reference to "enhancement of the national heritage for future generations."

Title I of both S. 1075 and S. 1752 outline a continuing program of research and investigations and provides for inventories and coordination. This information would be analyzed and interpreted by qualified personnel of a unit in the Executive Office of the President called the "Council on Environmental Quality" (or "Council of Advisors on Resources Conservation, and the Environment" in S. 237). We concur with the basic principle on the studies and the need for coordination. The extensive interrelationships of activities affecting the environment are handled by many agencies and coordination and cooperation is badly needed. Reports would be made annually by the President to the Congress, and with this requirement we are in agreement.

We note that S. 237 and S. 1752 would provide for special Congressional consideration of the President's views. These apparently would be provided as one of the alternatives suggested in the White Paper. We think an oversight Committee could perform a useful function but have no strong feelings on whether it should be of the "select" type outlined in S. 237 or a joint type proposed in S. 1752.

In conclusion, Mr. Chairman, I would like to point out that our organization went on record in the 33rd annual convention held here early this year as supporting a proposal to amend the Constitution of the United States by adding a "Conservation Bill of Rights" (copy attached). We believe that, in addition to other assurances spelled out in the Constitution, every citizen should have a right to an unpolluted environment. This alternative also was pointed out in the White Paper. While it is a cumbersome process, one requiring approval of two-thirds of the Congress and ratification by three-fourths of the States, if approved such an amendment could have a far-reaching and highly-significant influence in controlling future abuse of environmental values.

We hope that the best features of these proposals can be drawn into one bill which will find acceptance from the Committee. While it would not go as far as some conservationists would recommend—that the Council have meaningful enforcement powers—this bill can prove to be a useful instrument in protecting and enhancing the quality of the environment. To many of us, this is what makes life worth living.

Again I thank you for the opportunity of making these observations.

NATIONAL WILDLIFE FEDERATION, 33D ANNUAL CONVENTION, WASHINGTON, D.C.,
FEB. 28-MAR. 2, 1969, RESOLUTION NO. 3

CONSERVATION BILL OF RIGHTS

Whereas, as with other rights assured by the United States Constitution, every citizen should have a right to an unpolluted environment; and

Whereas, to implement this right, the Congress must prepare and maintain an inventory of existing resources and provide for their protection; and

Whereas, actions which may adversely affect these resources must be subjected first to a public hearing;

Now, therefore, be it resolved, That the National Wildlife Federation, in annual convention assembled Feb. 28-March 2, 1969, in Washington, D.C., hereby asserts its support of a proposal to amend the Constitution of the United States by adding a "Conservation Bill of Rights."

Senator ANDERSON. Mrs. Donald Clusen.

STATEMENT OF MRS. DONALD E. CLUSEN, SECOND VICE PRESIDENT, LEAGUE OF WOMEN VOTERS OF THE UNITED STATES

Mrs. CLUSEN. Mr. Chairman, I should like to request that the full text of this statement be inserted in the record and I shall summarize very briefly.

Senator ANDERSON. That will be done. We thank you very much.

Mrs. CLUSEN. The League of Women Voters supports creation of the Council on Environmental Quality. Indeed, we have supported something of this nature since 1960, when we first appeared before this committee in behalf of a council of resources and conservation

advisers. We felt the need was great then and we think it is even greater now.

Over the years, we have worked for passage of several legislative proposals which have come from this committee in order to improve coordination between Federal agencies in the water field, which is really the focus of our particular interest in natural resources. Indeed, we think the Water Resources Planning Act and the National Water Commission Act, in which the commission had a part, were very important additions to the Federal record in this area.

We have seen again and again the need for coordination between departments, between agencies within the departments, between public projects and between public and private projects. We think that at the present time, we are wasting our funds, our time, and our energy letting one interest undo what another interest has been working to accomplish. We think it is quite necessary that the President, who is really the only person who can insist that the departments and bureaus in the executive branch cooperate with one another, receive advice from outside the Federal departments, because each of these has its own statutory responsibilities and its own interested clientele.

We have also been interested since 1960 in developing Federal procedures to provide the President and the Congress with the kind of data and the framework within which alternative choices could be weighed, and we think this council would be a very helpful body to have outside the operating and construction agencies, with the duty of evaluating alternatives and their effect on environmental quality.

We think the public needs help in recognizing the choices that have to be made and that the council could provide sound and solid information on which to base value judgments. Although we have never been an organization to encourage a proliferation of ad hoc councils and commissions, we do see merit in this kind of a quality-facilitating body that would analyze information and do advanced thinking to help chart the direction in which the Nation is moving.

The league is convinced that improved management will come about only if the advisory body has great stature and if it can communicate readily with the President, because then it will reach an important audience with its reports and be not lost in departmental inertia. So we see the role of this Council as paralleling the role of the Council of Economic Advisers. We think the most effective arrangement would be to have a group of people whose names would become known to the public, contemplating on and clearly responsible for reporting and advising on environmental quality matters.

With regard to the possibility of a Joint Committee on Natural Resources, remembering back to 1960, when it probably was first developed, we think the creation of a Joint Committee on Environment is improbable. However, the league would like to see the creation of a Council in Environmental Quality in the Executive Office of the President paralleled by the creation of a Senate Select Committee with representation from all committees having jurisdiction over any aspect of environmental quality. We found the Senate select committee operation with regard to water resources had a very stimulating effect, and we think the same kind of a Senate Select Committee on Environmental Quality might be a very helpful addition to this field.

We do think it might be helpful to have the studies which the bills

before us would want to be carried out as far as possible directly under the planning and supervision of the Council.

We think that the establishment at least of the framework and the necessary data could be done, at least under contract from the Council, thus removing it from, at least in the first stages, a single department.

We appreciate, in your limited amount of time, the opportunity to appear before you today and have our views become a part of the record.

Thank you.

Senator ANDERSON. Thank you very much. We thank you for a good statement.

Senator Jordan.

Senator JORDAN. Thank you.

We appreciate the contribution by your fine organization to such matters as this and many others through the years, with your excellent work.

Mrs. CLUSEN. Thank you.

(The complete statement referred to follows:)

STATEMENT OF MRS. DONALD E. CLUSEN, SECOND VICE PRESIDENT, LEAGUE
OF WOMEN VOTERS OF THE UNITED STATES

I am Mrs. Donald E. Clusen, a vice president of the League of Women Voters of the United States and chairman of its water resources committee. The League of Women Voters of the United States, with 150,000 members organized in over 1,250 local Leagues in the 50 states, the Commonwealth of Puerto Rico, the Virgin Islands, and the District of Columbia, supports creation of a Council on Environmental Quality, which will provide information, advice, and assistance to the President. In 1961 Mrs. Whittemore again spoke for the League in support resources, conservation, and environmental conditions.

CONTINUING NEED

In 1960 a former chairman of the League's national water committee, Mrs. Arthur E. Whittemore, appeared before this committee to speak in support of Senator Murray's bill to create a Council of Resources and Conservation Advisors to the President. In 1961 Mrs. Whittemore again spoke for the League in support of bills by Senators Engle and McGee to set up such a council in the Executive Office of the President.

The League thought the need for such a body existed then; we think it is greater now. In the intervening years our members have become increasingly involved in problems of water pollution, sewer and sewage treatment plant funding, dumping and dredging regulations, preservation of wetlands and estuarine areas, water quality standards, interbasin division, effect of nuclear power-generation plants, effect of pesticides on water quality, weather modification to increase water supply, eutrophication in lakes, oil spills, wastes from boats, and land use along lakes, rivers, and coasts.

In connection with League work on water—the only natural resource topic on our program—our members are deeply concerned about degradation of the environment.

Over the years the League of Women Voters of the United States has worked for passage of several legislative proposals put forward by this committee and enacted by the Congress to improve coordination between federal agencies in the water field, provide for improved planning, and examine long range national water problems and policies. We think the Water Resources Planning Act and the National Water Commission Act were worthwhile measures. We think they will help the nation reach more rational decisions, but we know that they impinge on only a small part of the total environmental problem.

POLICY AND PROGRAM COORDINATION

Since the League became interested in water resources in 1956, our members have been concerned with problems of coordination between the many depart-

ments and agencies involved in federal water resource activities. Again and again we have seen the need for coordination between departments, between agencies within a department, between public projects at all governmental levels, and between public and private projects. We are wasting our funds, our time, and our energy letting one interest undo, and in a fully legal way, what another interest has been working hard to accomplish.

We recognize that coordination, like motherhood or clean water, receives general approbation, but that agencies and departments prefer to see other bodies coordinated rather than themselves. Therefore we think it necessary that the President—the only person who can insist that departments and bureaus in the Executive Branch cooperate with one another—receive advice from outside the federal departments, each of which has its own statutory responsibilities and customary interests and clientele.

CHOICE OF ALTERNATIVES

Since 1960 League members have favored developing federal procedures to provide the Executive and Congress with adequate data and a framework within which alternative choices could be weighed. We think it would be helpful to have somebody outside the operating and construction agencies that would have the duty of evaluating alternatives and their effect on environment quality.

We are convinced that the public needs help in recognizing the possible choices that could be made. We are convinced that many people are eager for sound and solid information on which to base value judgments. From our experience with water quality standards we know that preserving environmental quality will mean that citizens and industry must give up some freedom to do as they please. Stricter self-discipline will come about only if there is clear understanding of the consequences of carelessness. People will be persuaded to accept the necessary controls only if they have great confidence in the objectivity of the advisors.

ORGANIZATIONAL LEVEL

Although League members never wish to encourage proliferation of statutory or ad hoc councils and commissions, we see merit in a policy-facilitating body that analyzes information, does advanced thinking, helps to chart the direction in which the nation is moving, recommends to the President, and reports to Congress and the public.

The League is convinced that improved management will come about only if the advisory body has great stature, can communicate readily with the President, will reach an important audience with its reports, and is not lost in departmental inertia.

We see the role of the Council on Environmental Quality paralleling the role of the Council of Economic Advisors. The views of such a council on environmental quality would carry weight because it would be aloof from ties with construction agencies, it would not represent departments containing bureaus with programs of their own, it would not be a regulatory or enforcement agency.

We think the most effective arrangement is to have a few able people, whose names become known to the public, concentrating on and clearly responsible for reporting and advising on environmental quality matters. Therefore, the League supports creation of a Council on Environmental Quality in the Executive Office of the President.

ROLE OF CONGRESS

Remembrance of senatorial views when a joint committee on natural resources was suggested in 1960 makes us think that creation of a joint committee on environment is improbable. However the League would like to see creation of a Council on Environmental Quality in the Executive Office of the President paralleled by the creation of a Senate select committee with representation from all committees having jurisdiction over any aspect of environmental quality.

Somebody in the Congress will be needed to examine and weigh, as a whole, the council's annual report forwarded to the Congress by the President. Although the regular standing committees would continue to exercise their legislative and oversight responsibilities, a Senate Select Committee on Environmental Quality could have the same stimulating effect as the temporary Senate Select Committee on Water Resources. Policy formulation and implementation will, of course, remain in the hands of the elected political leaders.

Senator ANDERSON. Rev. John Corrado is next.

**STATEMENT OF REV. JOHN CORRADO, DAVIES MEMORIAL
UNITARIAN CHURCH, CAMP SPRINGS, MD.**

Reverend CORRADO. My statement is brief, Mr. Chairman, so I shall read it right through, if that is all right.

Senator ANDERSON. Proceed.

Reverend CORRADO. My name is John Corrado. I am minister to the Davies Memorial Unitarian Church of Camp Springs, Md. This afternoon it is my pleasure to speak on behalf of the Unitarian Universalist Association in support of Seante bill 1075 and other bills like it.

In 1966 the general assembly of our denomination passed overwhelmingly a resolution which supported the environmental control legislation the U.S. Congress had passed up to that time, and recommended "further legislation and administrative action providing adequate appropriations to deal with forest and wilderness area preservation, air, water, and land pollution, spoilation, and the disposal of sewage and industrial wastes." The bill before you represents a firm step in that direction.

Technology, once hailed as the hope of mankind, now threatens decay through massive pollution of the environment upon which all life depends. Man's careless inattention to the dynamics of nature has intensified this deterioration. Unitarian Universalists assert the right of every man to a life-giving environment reasonably free of toxic chemicals; further, we assert that it is the responsibility of those now living to set priorities for action that will insure the earth's future tenants an environment that is amenable to life. By establishing a framework for a continuing program of research and study, the machinery established by S. 1075 would provide the data on which such important priorities could be determined. We know, for example, that every day 4,000 acres of land are "developed" in the United States—that's equal to devouring an area equal to the size of Rhode Island every 6 months. Is such ambitious "development" worthwhile in the long run? Will it have ill effects on the ecological web of life? What kind of environment will it leave for future generations? A program of study and research could address such questions and perhaps suggest alternatives to unbridled "development" of our land. Questions concerning our environment could be addressed before they become problems of our environment.

Hydrologists tell us that the Washington, D.C., area will start having difficulties with summer water shortages in another year. Had the bill before you now been passed years ago, study and planning might have prevented what may become a serious crisis here.

And what of the mighty Mississippi which is now the mighty filthy Mississippi or the once great lake, Lake Erie, which is now acknowledged by ecologists to be a dead lake? The examples are many. Will it soon be a case of "water, water everywhere but not a drop to drink?" Hopefully a national strategy for management of human environment could help to eradicate such problems, but even if it couldn't, it could certainly help prevent similar problems from occurring in the future.

Along this line, I am alarmed to read that the Atomic Energy Commission is planning to hold underground tests for the antiballistic missile warheads in the island of Amchitka in the midst of the Aleutian

Islands National Wildlife Refuge, endangering some of our rarest forms of wildlife, including the bald eagle, the very living symbol of the United States of America; sea otters and declining species of Canada goose which live there. I believe this committee could strike a blow for sanity in our environment, right now, by raising its voice against this threatened desecration of our national treasure.

The problems of environmental control are immense and complex. We feel that the bill before you is justly comprehensive and open ended in its scope. We welcome Senator Jackson's bill as a move toward elevating the issue of ecology to front rank in public policy consideration.

Favorable enactment of this legislation will be a signal to the Nation that the Congress intends to place questions of environment at the top of the agenda along with questions of foreign and defense policy and urban affairs, all of which are represented in the inner councils of the White House at the present time. Such action would be giving recognition to the fact that stewardship of our environment is truly a matter of life and death.

Thank you.

Senator ANDERSON. Thank you very much. It is very kind of you to have had patience with the committee for so long. I thank you very much.

Senator Jordan.

Senator JORDAN. I have no questions. Thank you very much.

Senator ANDERSON. I also would like to mention the fact that the Senator from Idaho has been most patient.

At this point, there will be inserted into the record a statement by Senator Kennedy of Massachusetts.

(The statement referred to follows:)

STATEMENT OF HON. EDWARD M. KENNEDY, A U.S. SENATOR FROM THE STATE OF MASSACHUSETTS

It is a pleasure for me to have this opportunity to support S. 1075, which is so forward looking in its goal and far-reaching in its scope. I am also happy to be one of its co-sponsors.

S. 1075 is designed to deal with circumstances created by the increased application of technological advances which effect, in new ways, the relationship of man and his environment. We are already painfully aware of some of the effects of applied science and industrial advancement on man and on his environment—air and water pollution, noise pollution, destruction of our forests and of our other natural resources. We are aware of these problems; but, even now, we are not sure of their final effect on the physical well-being of our people, or on the nature of the land that has made this nation the affluent and self-sufficient nation that it is.

All too often, we in the Congress are given the task of passing legislation which has as its purpose the restoration, rehabilitation or revitalization of some phase of our American life and environment. Problems reach the critical stage before we act, and quick action is needed to prevent total destruction of that phase of life or environment.

Never has this fact been more obvious than now. A review of legislation passed during the past two sessions of the Congress is dramatic evidence—we have voted billions of dollars to rehabilitate our cities, to stem the rise of water pollution, to rid our land of air pollution, to establish regional planning agencies, to revitalize our declining industries, and to restore and preserve our natural resources. How much less costly it would have been to anticipate these effects of undisciplined planning and unchecked technological application.

S. 1075 is designed to meet our responsibilities in predicting the demands created by the everchanging relationship of man and his environment. It is a

bill which endeavors to anticipate the important and potentially critical problems created by the technological assault on our natural and human environment, and plan for their management. By authorizing the Secretary of the Interior, as is proposed in Title I of the bill, to conduct investigations, studies, surveys, and research relating to the nation's ecological systems and environmental quality, we will ensure that the Federal Government has at its disposal the most recent and significant data available. Presently, such programs are carried out by no fewer than 27 of our Executive and Independent agencies, and they are marked by contrasting and duplicating results. Through the Office of the Secretary of the Interior, acting as a conduit of information and research assignments, the results of a fractured administrative organization within the Executive Branch of the Federal Government can be eliminated.

Title II of S. 1075, to establish a Council on Environmental Quality in the Office of the President, would provide the President with a ready source of informed experts on the overall environmental trends operating at any particular point of time. Through this office, the President would be prepared to send to the Congress the legislation necessary to introduce controls related to a specific area of the environment, so that the balance between man and his environment may be maintained. The Council on Environmental Quality and the Secretary of the Interior would be, then, the review board for the consideration of alternative solutions to all environmental problems.

For the reasons described above, and for the reason that this bill is indeed contributory to our efforts to maintain, preserve, and develop our environment in concert with the continuing need for that environment to serve the best interest of man and his needs, I support this legislation. I urge the Committee to report favorably on it. And I assure you that I will work for its passage on the Floor of the Senate.

Senator ANDERSON. The hearing record on these bills before the committee today will remain open for 10 days to allow the filing of supplemental statements. If there is no objection, additional materials on the quality of the human environment will be added at this point in the hearing record.

(The letters referred to follow :)

NEW YORK, N.Y., April 18, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I appreciate your letter of April 3 inviting me to testify before your Committee on April 16 to consider S. 1075, a bill to establish a national strategy on human environment. Unfortunately, I could not be there but am glad to respond by means of this letter and would be pleased to have it included in the record of your hearings.

This response is in my capacity as a private citizen rather than as Chairman of the Citizens' Advisory Committee on Recreation and Natural Beauty. The Committee is currently considering the issue of environmental organization and protection, and our recommendations are not yet formulated.

I am strongly in favor of the general objectives of your bill. We need an improved mechanism to bring environmental issues to the attention of the highest levels of government and to the American people. We also need a means of establishing policy goals and priorities for the environmental programs of the many federal agencies involved. Implicit in this is, of course, the need for closer cooperation and coordination. These are, by now, almost trite phrases, but they remain real needs.

I strongly feel there is action needed by both the Congress and the Executive Branch working in harmony to resolve what in your own words is "a new focus for public policy." In my belief, environmental problems have emerged in recent years as the most pressing domestic problem of our Nation. This letter does not attempt to offer detailed suggestions as to the institutional changes that would be desirable if environmental problems are to be effectively met; but it is clear that changes should be made.

My hope is that the 5-man Council on Government Reorganization recently named by President Nixon and chaired by Roy L. Ash of Litton Industries will give this matter urgent and high priority attention. Also, I believe that if Senator

Ribicoff's bill S. 293 is enacted, the question of environmental organization of the Executive Branch should be of top priority.

We are not informed on the details of the proposal for an Environmental Council currently being considered by the Administration. It may well be, as you suggest, that both the Advisory Council who proposed your bill and the Environmental Council being considered by the Administration would complement each other. This would be particularly true if one were concerned with long-range policy and strategy and the other with more immediate coordination of federal programs. However, I would hope that any legislative and administrative action would be taken in concert toward the goals I know both branches of government share.

Thank you for writing. I would be privileged to discuss any of these matters further with you at your pleasure.

Sincerely,

LAURANCE S. ROCKEFELLER.

THE UNIVERSITY OF WISCONSIN,
Madison, Wis., April 23, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: I would like to present to your Committee my strong support of a Council on Environmental Quality, such as outlined in Bills S 1075, S 1752 and S 237. I would gladly have honored your invitation to testify on these bills except for previous commitments.

Except for the dangers of atomic war, nothing is more important to the safety and well-being of the United States and the world than maintenance of an optimum human environment; there is simply no question that man is the result of evolution in a high quality environment, which now is being destroyed through neglect, ignorance or greed. We cannot live as adapted healthy beings apart from it. We are in fact a part of it! As the enclosed manuscript shows (it will be printed this summer in the *Bulletin of the Atomic Scientists*), we must now begin to direct all our best research efforts and moral imperatives to insure a quality environment for the human species. The United States must take leadership in this effort because we are the technological leaders of the world, and therefore also the worst environmental offenders.

I support wholeheartedly these three bills. I think it imperative that this Council on Environmental Quality have power and independent judgment. I am aware that the Nixon administration is considering establishing some sort of environmental overview mechanism, perhaps by setting up an interdepartmental committee (HEW, USDA, Interior, etc.). Considering the great need for a strong advisory council to the President on vitally important environmental matters, I think such an interdepartmental committee would be unable to take the independent and objective view needed to properly evaluate the issues. Only an *independent council* such as suggested by these three bills, could do the job.

The enclosed manuscript, "Criteria for judging an optimum environment", especially for man, suggests broad guidelines for the functioning of a Council on Environmental Quality. I would like to request that it be included, together with this statement, as part of the record of the hearing.

Sincerely,

HUGH H. ILTIS,
Professor of Botany.

[Enclosure]

CRITERIA FOR JUDGING AN OPTIMUM ENVIRONMENT—CULTURAL VIEWS OF AN
OPTIMUM ENVIRONMENT REFORMULATED ON BIOLOGICAL BASES

(Hugh H. Iltis, Orie L. Loucks, and Peter Andrews)¹

Almost every recent issue of the major science journals is directed in part to an overwhelming interest in one urgent question: Shall a single species of animal, man, be permitted so to dominate the earth that life as we know it is threatened?

¹ Drs. Iltis and Loucks are professors of Botany, University of Wisconsin, Madison. Mr. Andrews is an affiliated student in Archeology and Anthropology, St. John's College, Cambridge, England.

The uniformity of the theme is significant, but if there is consensus it is only as to the need for concern. Each science looks differently at the problem of how to deal with man's imminent potential to modify the earth through environmental control. Proposals for finding how to redirect trends in population, space, and resource relationships toward an "optimum" for man are so diverse as to bewilder both scientists and research-supporting agencies. Only the most poorly informed of the public seem satisfied that unlimited and uncontrolled technological advances will still leave a land fit for man to live in.

It is no thirst for argument that compels us to add a further view. Rather it is the sad recognition of major deficiencies in the policies and politics guiding government support of research on maintaining and improving quality in our environment. Many writers find the present situation so desperate that even short-term treatments of the symptoms look attractive. We rapidly lose sight (if we ever think of it at all) of man's very recent origins, probably on the high African plains, and the natural environment that shaped his physical and psychological response systems. Part of the scientific community also accepts what Lynn White of the University of California at Los Angeles has called our Judeo-Christian arrogance toward nature, and is gambling on superior technology to deliver the necessary food, clean water, and fresh air. But are these the only necessities? Too few scientists are willing to ask effectively whether man has other than these basic needs. Is there any limit to the artificiality of the environment that man can tolerate? Very little support is available for such studies, even if they were proposed.

We wish also to examine which areas of science have the responsibility to initiate and carry out studies needed to reveal the limits of man's tolerance to environmental modification and control. We are especially concerned about the view presented by Eric Hoffer in the *Saturday Review* of February 1966, suggesting that social criteria for environmental quality can have no innate biological basis, that they are only conventions. Yet, on the other hand, there is increasing evidence that mental health and the social stability of populations may be profoundly influenced by the frustrating aspects of an urban, biologically artificial environment.

A few proposals are being made for large-scale inter-disciplinary studies of our environment, and of the future of man. However, we know of no proposal that combines the capabilities of scientists in environmental design with those of a group examining the psychological and mental health responses of man to natural landscapes. Social scientists study the annual mass migration of urban man out of his "canyons of anxiety" into the natural landscapes, but the research in this area will be more significant when joined with studies that quantify landscape quality, the psychology of individual human response, and the evolutionary basis of man's possible genetic adaptation to nature.

POINTS OF DEPARTURE: FACTS AND FEARS

We regard two points as well enough established to provide the foundation of our argument. First, we believe the inter-dependency of organisms, in a "web of life", is now documented as essential to maintaining life and the environment as we know it. We need not proceed further with the evidence of deterioration in the natural environment due to unintended, or thoughtless, disruptions at the base of the food pyramid. The suffocation of aquatic life in water systems, such as Lake Erie, and the spread of pollutants in the air and on the land, such as DDT, make clear that the "web of life" for many major ecosystems is indeed seriously threatened. The abrupt extinction of otherwise incidental organisms, or their depletion to the point of no return, threatens permanently to impair our fresh-water systems and coastlines. The die-off of large populations of alewives on Lake Michigan shores is an example, as is the decline of the bald eagle. Man is an indivisible part of these biological systems, both as a cause of the deterioration and as an organism to be greatly affected.

Secondly, man's recent evolution is now well enough understood to play a major part in understanding the relationship of man to his natural environment. The major selection stresses, mechanisms by which the fittest survived, were influenced early by the gregarious tendencies of man, and have reinforced the development of community social structures. These aspects of "environment" must be considered with the immense potential of learned adaptations over the entire geologic period of recent physical evolution. George Gaylord Simpson of Harvard University has said it is "the biological nature of man, both in his evolutionary history and in his present condition, that presents us with our only fixed point

of departure." Unfortunately, scientists, like most of us moderns, are city dwellers dependent on social conventions. They, too, have become progressively isolated from the landscape where man developed, but where the benchmarks pointing to man's survival may now be found.

The immediacy of problems relating to environmental control is so startling that the threat of a frightening and unwanted future is another point of departure for our views. The report of the Environmental Pollution Panel, President's Science Advisory Committee, shows that at the present rate of advance in technology and agriculture, there remain only a few years until all of life, even in the atmosphere and the oceans, will be under the conscious dictates of man. While all of us must accept this general result as inevitable, the methods leading to such control offer some flexibility. It is among these that we must weigh and reweigh the cost-benefit ratios, not only for the next 25 or 50 years, but for the next 25,000 or more. The increasing scope of the threat to man's existence within this controlled environment demands radically new criteria for judging both "benefits to man" and "optimum environments."

It would be perverse not to acknowledge the immense debt of modern man to technological development. In mastering his environment, man has been permitted a cultural explosion and attendant intricate civilization made possible by the inventiveness of modern agriculture, an inventiveness which must not falter if the world is to feed even its present population. Agricultural technology of the 19th and 20th centuries, from Liebig and the gasoline engine to hybrid corn, weed killers, and pesticides, has broken an exploitative barrier leading to greatly increased production and prosperity in favored region of the world. But this very success has imposed upon man an even greater responsibility for managing all of his physical and biotic environment to his best advantage.

Another view has been expressed recently by Augustus Braun Kinzel of the Salk Institute for Biological Studies in San Diego. Writing in *Science*, he suggests that the "balance of nature" upset by massive use of non-disintegrating detergents and pesticides, will be restored by "new engineering". Such an answer is necessarily based on the assumption that it is only an engineering problem to provide what Kinzel calls "an environment relatively free from unwanted man-produced stress." But even if the engineering were successful, the very success dissipates our abilities to see humans as part of the complex biological balance, and even more difficult engineering problems are generated. The more successful technology and agriculture become, the more difficult it is to ask pertinent questions and to expect sensible answers on the long-range stability of the system we build.

Inspired by recent success, some chemical and agricultural authorities still hold firmly that we can amply feed the world by using suitable means to increase productivity. There is a conviction that we can and must bend all of nature to our human will, to feed the ever-increasing billions of humanity. Paul Ehrlich's new book *The Population Bomb* and the Paddock brothers' *Famine-1975* are grim reminders not only of the impossibility of this aim, but of other consequences—the loss of all open space to food production. The spectre of the population explosion, and its relation to the current world-wide unrest and environmental deterioration, is still far too little appreciated. This is clear in Pope Paul's negative encyclical on birth control, unencumbered as it is by any consideration of man's relationship to open space and nature.

If open space were known to be as important to man as is food, could we not find ways to assure both? Would we then not insist on population limits? Who among us has such confidence in modern science and technology that he is satisfied we know enough, or that we are even asking the right questions, to ensure our survival beyond the current technological assault upon our environment? The optimism of post-World War II days that man can solve his problems, the faith in science that we of Western culture learn almost as infants, appear more and more to be unfounded.

CONSIDERATIONS ARISING FROM EVOLUTION

Darwin believed that questions concerning the future of man should be answerable in part from his evolutionary past. To answer "what does man now need?" we must ask "where has he come from?" and "what evidence is there of continuing genetic ties to surroundings similar to those of his past?"

The noted geneticist Theodore Dobzhansky stressed in *Science* a year ago that man is unique. But the fact of this uniqueness does *not* separate him from animals. Others have emphasized the many more similarities with mammalian

associates, rather than differences. Man is the product of over a hundred million years of evolution among the mammals, of over 45 million years among the primates, and of over 15 million years among apes. While his morphology has been essentially human for about two million years, the refined neurological and physical attributes of "recent" man are but a few hundred thousand years old.

George G. Simpson has noted that those among our primate ancestors with faulty senses, who misjudged distances when jumping for a tree branch, or who didn't hear the approach of predators, *died*. Only those with the characteristics of agility and alertness that permitted survival in ruthless nature lived to contribute to our present-day gene pool. Medical geneticists acknowledge that such selection pressure continued with little modification until the rise of effective medical treatment and social reforms during the last four generations. The sustained selection over hundreds of generations can only have led to precise adaptations for the environment producing the selecting mechanisms, adaptations which are not likely to be appropriate to the man-modified environment we are now forced to live in.

These are evolutionary reasons that make it likely that man is as genetically programmed to a natural habitat of clean air and a varied green landscape as any other mammal. To be relaxed and feel healthy usually means simply allowing our bodies to react in the way for which 100 million years of evolution have equipped them. Physically and genetically we appear best adapted to a tropical savanna, but as a civilized animal we adapt culturally to cities and towns. For scores of centuries in the temperate zones we have tried to imitate in our houses not only the climate, but the setting of our evolutionary past: warm humid air, green plants, and even animal companions. Today those of us who can afford it may even build a greenhouse or swimming pool next to our living room, buy a place in the country, or at least take our children vacationing at the seashore. The specific physiological reactions to natural beauty and diversity, to the shapes and color of nature, especially to green, to the motions and sounds of other animals, we do not comprehend. Yet society seems reluctant to require consideration of these things in studies of environmental quality. It is evident that nature in our daily lives must be thought of, not as a luxury to be made available if possible, but as part of our inherent biological need, essential in studies of resource policies for man.

EVIDENCE OF TIES TO NATURAL ENVIRONMENTS

Abundant information is available from recent studies in anthropology, psychology, and environmental design which has obvious implications for our attempts to build a biologically sound human environment. Unfortunately, the results frequently are masked by the specifics of the studies themselves. Except for the synthesis attempted by Konrad Lorenz in the book *On Aggression* little has been done to extend the implications of these studies to modern social and economic planning. For example, Ardrey's popular work, *The Territorial Imperative*, explores territoriality as a basic animal attribute, and tries to extend it to man. But in this study, experimental evidence is limited, and we have no clear conception of what the thwarting of this instinct does to human happiness. Other reports on the nature of aggression have explored the evolutionary roots of animal conflicts, roots that were slowly developed by natural selection over millions of generations. These studies, and the book *Human Aggression* by the Englishman Storr, tell us that the sources of drive, achievement, and even conflict within the family, and war among men, are likely to be related to primitive animal responses as well as to culture.

Evidence also exists that man is genetically adapted to a nomadic hunting life, living in small family groups and having only rare contact with larger groups. As such he led a precarious day-to-day existence, with strong selective removal due to competition with other animals, including other groups of humans. Such was the population structure to which man was ecologically restricted and adapted until as recently as 500 generations ago. Unless, in the interval, there has been a shift in the major causes of human mortality *before* the breeding age (and except for resistance to specific diseases there is no such evidence), this period is far too short for any significant changes to have occurred in man's genetic make-up. Dobzhansky's "evolutionary optimism" to the contrary, there is no evidence whatever that the past dozen generations have or could have produced the substantial selective mortality that would lead to various genetically fixed adaptations to urban environments.

Studies of neuro-physiological responses to many characteristics of the environment are also an essential part of investigating genetic dependence on

natural as opposed to artificial environment. The rapidly expanding work on electroencephalography in relation to environmental stimuli is providing evidence of a need for frequent major changes in surroundings for at least short periods. More specifically, qualities of diversity are required in the surroundings. There is reason to believe that the electrical rhythms in the brain are highly responsive to changes in surroundings when these take the full attention of the subject. The rise of mechanisms for maintaining constant attention to the surroundings can be seen clearly as a product of long-term selection pressures in a "hunter and hunted" environment. Conversely a monotonous environment produces wave patterns contributing to fatigue. One wonders what the stimuli of brick and asphalt jungles, of constant noise, or the monotony of corn fields, do to the nervous system. Biotic as well as cultural diversity, from the neurological point of view, may well be a fundamental basis for the general health that is the goal in discussions of environmental quality.

Also worth noting are the interesting results of Maxwell Weismann of the Maryland Department of Mental Health in taking chronically hospitalized mental patients camping. Hiking through the woods was the most cherished activity. Some 35 of the 90 patients were returned to their communities within three months after the two-week camping experience. Many considerations are involved, but it is possible that in a person whose cultural load has twisted normal, culturally adaptive functioning into bizarre reactions, his innate genetic drives still continue to function. Responses attuned to natural adaptations would require no conscious effort. An equally plausible interpretation of Weismann's results is that the direct stimuli of the out-of-doors, of nature alone, produces a response toward the more normal. A definitive investigation of the bases for these responses is needed as guidance to urban planners and public health specialists alike.

The examples adduced above are concerned with the negative effects which many see as resulting from the unnatural qualities of man's present, mostly urban environment. Huxley ventures a further opinion in *Brave New World* as he considers the abnormal adaptation of those hopeless victims of mental illness who appear most normal: "These millions of abnormally normal people, living without fuss in a society to which, if they were fully human beings, they ought not to be adjusted. Still cherish 'the illusion of individuality', but in fact they have been to a great extent deindividualized. Their conformity is developing into something like uniformity. But uniformity and freedom are incompatible. Uniformity and mental health are incompatible as well. . . . Man is not made to be an automaton, and if he becomes one, the basis for mental health is lost."

Clearly, a program of research could tell us more about man's subtle genetic dependences on the environment of his evolution. But of one thing we can be sure: only from study of human behavior in its evolutionary context can we investigate the influence of the urban environment on the life and fate of modern man: even now we can see the bases by which to judge quality in our environment, if we are to maintain some semblance of one which is biologically optimum for humans.

RESEARCH FOR AN OPTIMUM ENVIRONMENT

We do not plead for a return to nature, but for re-examination of how to use science and technology to create environments for human living. While sociological betterment of the environment can do a lot to relieve poverty and misery, the argument that an expanding economy and increased material wealth alone would produce a Utopia is now substantially discounted. Instead, a national concern for the quality of life in our affluent society is evident. But few economists or scientists have tried to identify the major elements of the quality we seek, and no one at all has attempted to use evolutionary principles in the search for criteria of quality. Solutions to the problems raised by attempts to evaluate quality will not be found before there is tentative agreement on the bases for judging an optimum human environment. A large body of evidence from studies in evolution, medicine, psychology, sociology, and anthropology suggests clearly that *such an environment will be a compromise between one in which humans have maximum contact with the properties of the environment to which they are innately adapted, and a more technological environment in which learned adaptations and social conventions are relied upon to overcome primitive needs.*

Our option to choose a balance between these two extremes runs out very soon. Awareness of the urgency to do something is national, and initial responses

may be noted in several well-established but relatively narrow scientific disciplines. There has been the recent revival of eugenics. A balanced view has been proposed by Leonard Ornstein of Mt. Sinai Hospital, New York, who agrees with others that positive improvements in man's genetic make-up must wait until we are vastly more knowledgeable. He recommends control of degenerating effects from uncontrolled mutation (in the absence of high selection) until more positive measures can be taken.

More extreme is the view that man could be changed genetically to fit any future, particularly the mass megapolis, but means to do this and the moral justification of the aims sought are still far from being resolved. Many, such as Dobzhansky and Kinzel, support the so-called evolutionary and technological optimists, who, unlike their forefathers of little more than a generation ago, believe man, or his environment, can be changed radically when the time comes. They show a faith that science has proved its ability to draw on an almost unlimited technology to do the impossible. The technologically impossible seems to have been accomplished time and time again during the past two or three generations, and will happen again. But some important scientific objectives have not been achieved, and we are likely to become more aware of the failures of science, of the truly impossible, as the irreversible disruptions of highly complex biological systems become more evident.

We suggest that the alternative to genetic modification of man is to select a course where the objectives only verge on the impossible. Let us regard the study and documentation of criteria for an environmental optimum as the "nearly impossible" challenge for science and technology in the next two decades! Although considerable research in biology, sociology, and environmental design is already directed to this objective, there are several other types of study required that we will outline briefly, simply to indicate the scope of the challenge.

First, a thorough examination must be undertaken of the extent to which man's evolutionary heritage dominates his activity both as an individual and in groups. The survival advantages of certain group activities have clearly figured in his evolutionary success and adaptive culture. In *The Naked Ape* Desmond Morris shows that although cultural adaptation now dominates the biological in the evolution of man, his basic animal nature has not changed. Research leading to adequate understanding of the need for man to meet innate genetic demands lies in a combination of genetics, physical anthropology and animal behavior studies.

Secondly, further comprehension must be sought of how cultural adaptations and social conventions of man permit him to succeed in an artificial environment. Cultural adaptation is the basis of his success as a gregarious social animal, and it will continue to be the basis by which he modifies evolutionarily imposed adaptations. Medical studies suggest there may be a genetic limit to the magnitude of cultural adaptations, and that for some people this has been nearly reached. Studies in sociology, cultural anthropology, and psychology are all necessary to such research, in combination with environmental design and quantitative analysis of diversity in the native landscape.

Third, relationships between the health of individuals, both mental and physical, and the properties of the environment in which they live should be a fundamental area of study. It is easy to forget that we should expect as much genetic variability in the capacity of individuals to adjust to artificial environments as we find in their physical characteristics. Some portions of the population can be expected to have a greater inherent commitment to the natural environment, and to react strongly if deprived of it. Others may be much more neutral. Studies of the population as a whole must take into account the variability in reaction, and must therefore consider population genetics as well as environmental design.

Fourth, environmental qualities should be programed so as to optimize for the fullest expression of evolutionary (i.e. human) capabilities at the weakest link in the ontogenic development of human needs. While there are many critical periods during our life, we believe the ties to natural environments to be most vital during youth. We have abundant evidence on our campuses and in our cities that the dislodgment of youth presents perhaps the most serious obstacle to successful adoption of more complex social structures. The dislodgment of man in an artificial environment will vary throughout his ontogeny. Even the small child or infant cannot be expected to be indifferent to changes in the gross characteristics of his community, nor within his own family. Young men and women accept many of the modern social conventions, but retain the highly questioning mind that once contributed to our survival by initiating new and better ways to hunt and

forage. By early middle age, man's physical and mental agility has changed and he becomes a stronger adherent to the social conventions that make his own society possible. During the rise of modern man on the high African plains, and continuing into modern primitive societies, each community was very much dependent on its young men. They contributed to hunting and community protection through their strength and agility, commodities for which there is declining demand in modern society. Survival in the primitive groups was to some degree dependent on the willingness of youth to innovate and take risks, and this has become a fixed adaptation, requiring outlets of expression.

Over 30 years ago, the great sociologist W. F. Ogburn suggested that society in the future would require "prolonging infancy to, say thirty or forty years or even longer". Is not our 20-year educational sequence a poorly-veiled attempt to do just that? From an evolutionary point of view will not this dislodgment of youth present the most serious obstacle to successful adoption of more complex social structures? We are compelled to acknowledge that the modern technological environment of youth has not compensated for the loss of the challenges of the hunt and the freedom of the veldt. The abundant disruptions on our campuses and in the cities indicate the need to plan environmental optima for this weakest link in the human need for expression of evolutionary capabilities.

Finally, through projects such as the International Biological Program, systems ecology is developing the capacity for considering all of the relationships and their interactions simultaneously. The notion of fully describing the optimum environment for any organism seems presumptuous. It requires measurement of every type of response, particularly behavioral responses, and their statement as a series of component equations. Synthesis in the form of a complex model permits mathematical examination of approaches to an optimum for the system as a whole. Until recently it seemed more reasonable to study such optimization for important resources such as fisheries, but the capability is available and relevant to the study of the environmental optimum of man, and its application must now be pursued vigorously.

The above five approaches to the study of human environment provide an objective base for investigating the environmental optimum for man. We cannot close this discussion, however, without pointing out that the final decision, both as to the choice of the optimum, and its implementation, is an ethical one. There is one optimum for the sick, and another for the well; there is one optimum for the maladjusted, and another for the well-adjusted. But in treating the problems of the poor and the minority groups, in our preoccupation with their immediate relief, we may continue to overlook the ways in which cultural demands of the modern, sub-optimum environment go far beyond the capacity of learned adaptations.

CONCLUSIONS

Considering our scientific effort to learn the functions and structure of the human body, and of the physical environment around us, the limited knowledge of the poor and the minority groups, in our preoccupation with their immediate cess of our scientific establishment we are faced with population densities and environmental contaminants that have left us no alternative but to undertake control of the environment itself. In this undertaking let us understand the need to choose a humane compromise—a balance between the evolutionary demands we cannot deny without great emotional and physical misery, and the fruits of an unbelievably varied civilization we are loathe to give up.

Yet are we even considering such a compromise? With rare exceptions are we not continuing to destroy much that remains of man's natural environment with little thought for the profit of the remote future? There continues to be a conviction that if we poison the water, we can always drink coffee. In the conflict between preservationists and industrialists (or agriculturalists) the latter have had it their way, standing as they do for "progress" and "modern living." While the balance between these conflicts is slowly changing, preservationists unfortunately continue to be regarded as sentimentalists rather than as realists.

Dobzhansky says that "the preponderance of cultural over biological evolution will continue to increase in the foreseeable future." We could not wish this to be otherwise; adaptation to the environment by culture is more rapid and efficient than biological adaptation. Culture evolves year by year and offers the only real flexibility. But social structures cannot continue indefinitely to become more complex and further removed from evolutionary forces. At some stage a compromise must be reached with man's innate evolutionary adaptability. Professor N. Tinbergen of Oxford University has most recently urged new com-

binations of scientific disciplines for investigating relationships between instinctive adaptations and cultural evolution.

The evidence shown of man's need for nature, particularly diversity, is sufficient to justify a determined effort by society to obtain answers to these and other questions that must now be asked. The techniques for studying the problems we describe are to be found in separate disciplines, but there is a substantial measure of willingness among scientists to undertake the new approaches. The first steps will be faltering and financial support will be slow in coming. We appeal to all levels of society to lend support to plans, however humble, which would lead to new contacts in research and to new types of training. While the limited steps in the direction of modern inter-disciplinary research are encouraging, there are obstacles in Congress, the research-supporting agencies, and the scientific community which can only be overcome by public insistence.

Now that buttercups are rare, at least symbolically, and springs sometimes silent, why study them? Have there not already been several generations for whom the fields and woods are nearly a closed book? We could encourage the book to close forever, and we might succeed, but in so doing we might fail disastrously. The desire to see and smell and know has not yet been suppressed and enthusiasm for natural history continues to bring vitality to millions. Let us recognize that we are a product of evolution, without apology for the close affinities with our primate forebears. We need only prepare consciously to make a compromise between our cultural and our genetic heritage by striking a balance of social structures with maintenance of environment. Most important, we must discover the intricate mechanisms of environmental influence on man. There is no other satisfactory approach in seeking an optimum environment.

[Telegram]

MADISON, WIS., April 15, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: We urge the strongest possible support for bill S. 1075 or one that will incorporate the related proposals by Senators Nelson and McGovern. A Council on Environmental Quality must be established in the Office of the President providing capabilities and opinions other than those already represented by Cabinet officers. The surveys authorize in title I represent congressional action to close one of the greatest gaps in modern science, the ability to identify and develop steps to correct degradations of environmental and biological systems before damage is irreparable.

There is a national urgency for early approval of this legislation. We ask that this statement be read at the hearing. Copies are being sent to Senators Nelson and Proxmire and President Nixon.

ORIE L. LOUCKS,
HUGH H. ILTIS.

THE UNIVERSITY OF WISCONSIN,
Madison, Wis., April 16, 1969.

Senator HENRY JACKSON,
Chairman, Interior and Insular Affairs Committee,
Senate Office Building, Washington, D.C.

DEAR SENATOR JACKSON: Enclosed is a brief expanding on comments I sent by telegram to your committee hearings on Wednesday on Bill S. 1075. It cites several examples of why a national Council of Environmental Quality, and ecological surveys of national scope are now a matter of great urgency.

I ask that this brief be included in the published record of the hearings.

Sincerely yours,

ORIE L. LOUCKS,
Professor of Botany.

A BRIEF IN SUPPORT OF BILLS S. 1075 AND S. 1752

This brief is to provide examples from recent ecological studies illustrating a need for the strongest support for Bill S. 1075 or one that will incorporate the related proposals by Senators Nelson and McGovern. A Council on Environmental Quality should be established in the office of the President providing capabilities and opinions other than those already represented by cabinet officers.

The surveys authorized in Title I of these bills represent congressional action to close one of the greatest gaps in modern science, the ability to identify and develop steps to correct degradations of environmental and biological systems before damage is irreparable.

At one time, the area of ecology was primarily the study of natural relationships between organisms and environment, or at most, study of the responses of organisms to man's once frail attempts to modify the species-environment relationship.

Today the primary concern of ecology has become a defensive one—the study of unnatural relationships, imbalances imposed by man's attempt to wring more from our environment and our resources than they can bear without substantial degradation. Thus ecology is becoming the study of the impact of technology, or in its bleakest terms the cataloguing of the degradation in natural systems.

The record of environmental crises being reported to this committee and to the Congress in many forms has been identified as a product of population buildup and modern technology. It brings us abruptly to one hard fact: that an end to the once bountiful resources of the world is now in sight, and that the limiting thresholds have not come as quickly in food, fiber, or fuels as once expected, but rather in air and water.

Water has always been limiting in some areas, but now continent-wide management or redistribution from Canada is more and more an economic prospect (if not a political one). With respect to air, the lead poisoning of children in the core areas of the cities as a result of the concentration of automotive exhaust in urban areas, the periodic regional pollution alerts on the east and west coasts of the United States, and the Iodine¹³¹ leaking from nuclear power stations make continent-wide management of atmospheric contaminants a matter of urgency in both national and international science councils.

These contaminants of air and water have already brought about significant regional eliminations of native plant species, the primary producers of food and fiber, and the converters of CO₂ to essential O₂. The economic value of the decrease in forest growth in Pennsylvania (due to release of SO₂ by coal-burning electric power stations) and through the mountains of southern California, is only now being recognized as a significant economic impact on these regions. The absence of adequate provision for the monitoring of such degradation is a congressional failure of national consequence.

It is the advance in technology, combined with the exponential growth in population, rather than major advances in natural science, that leads us to recognize that we live in a very small world indeed. I think we should view it as an experimental planet, hung on a string, where someone is trying to test the limits of the system of air, water, land, and life. But the experimenters are like small boys tormenting a caged animal. No one can predict what the response to the torture will be, and there is apparently no one able to convince them it is a dangerous game. Torture, of whatever sort, tends to result ultimately in the death of the victim. I say to this committee that the challenge in ecology and conservation in the next decade is to assemble the evidence and lay down rules of husbandry to the tormentors by whatever means possible, and both a Council of Environmental Quality and a national program of ecological studies is essential to this goal.

Let me devote the rest of my brief to examples of the techniques available to make this possible, and the role that national conservation councils must play to accomplish it. Some will indicate how it can be done, others only the first steps to what must be done.

THE DDT RECORD AS AN EXAMPLE

One of the most remarkable examples of the results from intensive ecological studies is the recent progress toward stopping use of DDT and other hard pesticides. This has come most recently through an action in court brought by the Environmental Defense Fund. Barry Commoner, the molecular biologist-turned-ecologist at Washington University in St. Louis, has stated that every modification of our environment has some secondary impact, whether a ripple or a wave, that radiates to unknown distances and unknown consequences. Our two decades of controlling insect pests with DDT has produced a wave whose impact now threatens to be greater than any of the upsets it was designed to correct. Incredibly, there has been no forum for objective, judicial examination of the infringements on innocent individuals resulting from its wave of upset. The courts would defer to the state departments of agriculture, who simply said that

DDT was approved for registration as a pesticide in the 1940's, and it would not be reconsidered. A few people appear to sit as prosecutor, judge, and jury.

The historical background to this confrontation is as follows. We were distressed in the late 1940's to see the rapid movement of DDT from the forest or lawn litter, to earthworms, and then to birds, but we were prepared to accept these modest upsets for the increased crop production, forest protection, and physical comfort afforded by DDT. It was nearly 15 years before the apparent disappearance of DDT from a treated area was demonstrated to be due, *not* to the breakdown of DDT, but due to its transport into the atmosphere attached to evaporating water. The amounts coming down in rainfall around the world were thought to be negligible, and in any case degradable. But DDT is unlike the radioactive fallout which we felt compelled to control. Part of it goes into plant or animal life, and the remainder back into the atmosphere. It simply keeps accumulating on the land, in the air, and in the water until every lake and stream and every organism of our small world carries its share.

Still, the decline of some of our top-carnivore bird species could not be identified clearly as a product of DDT accumulation in their bodies. At times they seemed to tolerate very high levels of DDT, and no mechanism is known by which direct mortality could be produced. Only in the last two years have the mechanisms of population decline become identified, and they are somewhat different for each group of animals affected. One is the upset of calcium metabolism in the liver, which in turn controls eggshell thickness and therefore the success of the hatch. Similar metabolic upsets are now a matter of record in the reproduction of fish. Particularly important has been the death of new-born mink or mink ranches fed on fish with high DDT levels from Lake Michigan.

Further evidence introduced at the DDT hearings in Madison now show the likelihood that DDT concentrations of even $\frac{1}{4}$ the levels now present in man, which are on the order of 10 ppm, can have a significant impact on the hormonal balances in man. In addition, and perhaps of even more consequence, is the fact that DDT and its breakdown products act to stimulate breakdown in some of our modern wonder drugs in the body before the drugs have an opportunity to act. The so-called proof that DDT will not kill a man even when taken in substantial quantities, is not at all reassuring to anyone who listened to this testimony in Madison.

However, the most significant aspect of the hearings to determine whether DDT constitutes a pollutant in Wisconsin waters has been the unusual breadth of scientific disciplines needed to complete the story of the movement and impact of DDT. The hearings began with early testimony by a botanist on the diversity of plant life, and the dependency of many species on insect pollinators. It continued with my contribution on the continuous movement of water out of the soil into the atmosphere and back to the land or open water body at points far removed from any DDT applications. The next witness demonstrated that DDT, wherever it has been applied, moves into the atmosphere with the water as it evaporates.

The world-wide transport mechanisms that have carried DDT to both the Arctic and the Antarctic poles are now known, and are an essential part of the story against DDT.

The other witnesses included fishery biology specialists, ornithologists, and a range of chemists, molecular biologists (including a colleague of the Nobel Prize-winning James Watson at Harvard University), and a biochemical pharmacologist. To my knowledge, never before has so wide a range of scientific capability been assembled on any single conservation issue. But the story could not have been told without all of these participants. It is an illustration of the breadth of specialization, far beyond the interests and capability of any ecologist, that we must assemble in most of the confrontations between adverse technological impact and biological productivity.

AN EXAMPLE OF OUR INABILITY TO FIND OUT

I would like to cite another example, but one where the answer is less encouraging. This concerns the greatly increased use of herbicides, such as atrazine, which is widely used for control of quack-grass in corn crops. We are using this advance in technology for important economic benefits, and with the same assurances as for DDT—that there are no lasting detrimental effects on the environment.

Yet last year we observed the abrupt mortality of nearly 4,000 acres of marsh cattail centered in a corn-growing area of Wisconsin. No other cause of mortality,

such as water level or oxygen supply, could be offered to explain the mortality with any conviction. But if herbicides had been present during the previous season, they would indeed have been degraded by the time we saw the effect.

Last autumn we had indications of new mortality in other marshlands. Was there anyone that could test for the presence of herbicides? The State Department of Natural Resources said that this would be very technical and that the University would have to do it. The University staff in this area said that it would take a special appropriation, and besides, it would take up to two years to develop suitable techniques for sensing the very low concentrations of herbicides involved. Thus, without proof that there is a herbicide problem we could not justify a budget for the monitoring of materials that are capable of damaging much of our wetland vegetation. Without a budget, we cannot get even preliminary evidence for or against the potential hazard of herbicides in wetland waters. What more urgent example could be cited for the need of federal legislation to assure studies for the protection of national resources from modern technology?

ORIE L. LOUCKS,
Professor of Botany.

THE NATIONAL ASSOCIATION OF SOIL AND
WATER CONSERVATION DISTRICTS,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
*Old Senate Office Building,
Washington, D.C.*

DEAR SENATOR JACKSON: In the National Association of Soil and Water Conservation Districts we are extremely pleased that you have scheduled a hearing on S. 237, S. 1075, and S. 1752, which relate to policy and implementation of efforts in behalf of the nation's resources and environment.

I am attaching a brief statement by Charles M. Ladd, Chairman of our Committee on Natural Environment, pertaining to the bills under consideration. We would appreciate it very much if this statement could be included in the record of the hearing on the aforementioned bills.

I also want to take this opportunity to express our high regard for your personal interest and activity in moving ahead with this kind of legislation.

Sincerely,

GORDON K. ZIMMERMAN,
Executive Secretary.

[Enclosure]

STATEMENT OF CHARLES M. LADD, DURHAM, NORTH CAROLINA, CHAIRMAN, COMMITTEE ON NATURAL ENVIRONMENT NATIONAL ASSOCIATION OF SOIL AND WATER CONSERVATION DISTRICTS

Among the major problems confronting the country, very few warrant a higher priority for national attention than those pertaining to our natural resources and the environment in which all of us live. Pressures on the quality and quantity of the resources which sustain us are multiplying. At the same time, because we have failed to anticipate and deal with the by-products of national growth on every side, the quality of our environment is deteriorating at a critical rate.

Resource and environmental problems are part and parcel of each other. They cannot be separated and, in our judgment, should be dealt with together.

The bills being considered by the Committee are all constructive. In many respects they are similar. Each in its own way proposes to move the nation toward more responsible action in behalf of natural resources and a better environment. We sincerely commend the Senators who introduced these measures.

There is a pressing need for legislation of this kind. Every responsible forecast of our national future is a forecast of growth. We are faced with an unprecedented growth in population. We are counting on a continuing and substantial growth for our economy as a whole.

To support this growth, there is an assumption the country will have enough resources, in terms of both quantity and quality, to meet our oncoming needs. As of now, this is an ill-founded assumption. As of now, there are no sound reasons for believing our future requirements for land, water and the related natural resources will be adequately met—or that we will conduct ourselves

and use our resources in ways that will sustain an environment for the American people that is at once wholesome, invigorating, and civilized.

As a nation we are not yet taking adequate, deliberate actions to accomplish these purposes.

That is why the bills before the Committee are so important. S. 237 and S. 1752 would establish much-needed national policy pertaining to resources and the environment. All three bills would elevate consideration of resources and the environment in the Executive Branch. S. 237 and S. 1752 would also provide specifically for increased and improved consideration of these matters within the Congress.

It is not our purpose in this statement to comment in detail on all the provisions, similarities, and differences in the three measures. Our hope is that the authors of these bills will, in due time, come to a meeting of the minds and join in a new, single bill incorporating the best of the three which are the basis of the current hearing.

For such value as they may have in this direction, we offer the following observations:

In our judgment, the quantity of renewable natural resources is a key factor, along with quality, in all considerations of resources and environment.

An annual Resources and Environmental Report by the President to the Congress is a matter of high importance. It would help direct the attention of the people, at least once a year, to the state of their resources and environment. Our resource wealth is so fundamental, and the quality of our environment is so vital, that we need to utilize the full prestige of the Office of the President to help improve the resource understanding of all Americans.

Little will be accomplished in behalf of the nation's resources and environment without the leadership and active participation of the Congress. We believe it is essential that select committees of the Senate and House of Representatives, along the lines set forth in S. 237, be established to insure the thorough and joint consideration of resource and environmental matters by the leaders of the several permanent committees of the Congress having responsibilities in these fields.

We strongly support the establishment of a Council of Resource and Environmental Advisors to the President. Resource and environmental issues are so pervasive in our society and economy that an independent Council reporting directly to the President is imperative if we are to have effective, over-all coordination of programs and positive leadership in relating our resource and environmental efforts to the nation's oncoming needs.

We specifically oppose the designation of the Department of the Interior, or any other single Department, as the focal point within the Executive Branch for resource and environmental responsibility. Several Departments have basic responsibilities affecting the protection and development of resources, as well as the condition of our environment. The Departments of Health, Education, and Welfare; Housing and Urban Development; Transportation; Agriculture; Commerce; and Defense all have such responsibilities that are on a par, in their respective fields, with those of the Department of the Interior. Experience over many years has demonstrated that the assignment of Executive-wide powers or responsibilities to any one Department, and calling for the compliance of several other Departments, produces a built-in and almost automatic resistance. There is no real need to risk this kind of problem and we should not invite it. Better alternatives are available.

Finally, we want to say that the National Association of Soil and Water Conservation Districts, representing more than 3,000 individual Districts and their 50 state associations, with 18,000 local governing officials and approximately two million cooperating landowners and operators, has an active and long-standing concern for the purposes of the legislation now being considered.

The dimensions of the problem, and the need for leadership can scarcely be exaggerated. We rely on Senators Jackson, McGovern, and Nelson as the authors of these three bills, to point the way.

THE IZAAK WALTON LEAGUE OF AMERICA,
Glenview, Ill., April 28, 1969.

HON. HENRY M. JACKSON,
*Chairman, Committee on Interior and Insular Affairs, Senate Office Building,
 Washington, D.C.*

DEAR SENATOR JACKSON: The Izaak Walton League of America is pleased that your Committee is now considering S. 1075 and other bills to establish a National Council on the Environment. The League has felt for some time that such legislation is badly needed and we wholeheartedly support its intent.

Undoubtedly your Committee is now reviewing the numerous suggestions which have been made, and while all of the proposals we have examined have constructive merits, we believe the following should be considered as well.

As you recall, the League was among those who were instrumental in establishing the highly successful Outdoor Recreation Resources Review Commission in 1958 of which you were a distinguished member. For the first time in our history that Commission was able to bring together the broadest possible consideration of our total national outdoor recreation needs. The Commission consisted of 8 Congressional members, 4 appointed by the Vice President and by the Speaker of the House respectively, and of 7 members appointed by the President. This shared representation made it possible for ORRRC to obtain information, ideas and recommendations from a wide variety of interested private and governmental agencies on a federal, state and local level. As a result, the Commission's work was considered to be the most comprehensive effort ever made in its field, and many of its recommendations have been implemented by outdoor recreation interests nationwide.

We believe the same type of comprehensive effort will have to be made in coming to grips with the still larger environmental problems. It occurs to us that the ORRRC formula may serve as effectively if applied to a National Commission on the Environment. Such a Commission would be able to deal with national policy in its broadest sense, independent of but responsible to Congress and the President. Further, the Commission would serve as a central agency for focusing scientific and citizen interest, a need which we feel acutely in our day to day activities.

In conjunction with such a Commission, we see a concurrent need for an Environmental Council at the operating level of government. The participants should be the Secretaries of the Departments. At the present time, the Secretaries meet to consider our national water supply needs through the Water Resources Council, and in this limited area they have coordinated their respective programs well. A similarly structured Environmental Council would permit them to consider a broader range of concerns as they relate to specific programs and projects.

We believe this two step approach may have a fundamental advantage not to be had otherwise. While the Commission and the Council would centralize environmental concerns in the formulation of national policy and its implementation, they would not be totally dependent on any single branch of government or on any particular agency. Further, such an approach would leave Congress, the White House and independent agencies free to institute other desirable measures in the context of their specific responsibilities. For example, while the President is now recommending an Environmental Quality Council to advise *him*, several Congressional Committees are delegating similar responsibilities to their own subcommittees. Further, some administrative agencies, such as the Corps of Engineers and the Federal Highway Administration have already instituted offices of environmental concerns within their own departments. All of these efforts are highly desirable and should be emulated by all agencies of government which have the responsibility for programs that significantly affect the total environment. None, however, provides a suitably authoritative and centrally accessible agency for consideration of our total national environmental needs. A National Commission and an Environmental Council at the operating level of government would fill his need.

We know that you and your Committee share our deep concern over the increasing complexity of the modern world and its impact on our lives. We feel strongly that it will take the broadest possible participation at all levels of government to come to grips with it.

Thank you for your consideration.

Sincerely,

J. W. PENFOLD,
Conservation Director.

SPORT FISHING INSTITUTE,
Washington, D.C., March 14, 1969.

HON. HENRY M. JACKSON,
Chairman, Senate Committee on Interior and Insular Affairs, U.S. Senate Office
Building, Washington, D.C.

DEAR SENATOR JACKSON: The Sport Fishing Institute is interested in your bill S. 1075, concerned with authorizing the Secretary of Interior "to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality and to establish a Council on Environmental Quality. We feel that passage of this measure would contribute significantly to the Nation's understanding and appreciation of America's natural resources that are so vitally in need of careful future husbandry.

Fisheries scientists, aquatic ecologist, and related conservation interests are vitally concerned with the aquatic resources of America and feel very strongly that there should be a broad authority adequate to embrace impact ecological studies of such resources even though defined research projects of concern may have another purpose. In other words, we would favor the authorization granted by this legislation to conduct research on related subjects that might not be covered by mission-oriented studies.

This would enlarge the public's "library" of knowledge so that there would be an improved capacity for estimation of the broader environmental—say, with respect to some innocently-affected community of organisms—consequences of a proposed large-scale construction project, resource management activity, or other environmental alterations. If this knowledge could become available to the construction (or other) agency at the outset of a proposed program, careless or unwritting upset of delicate ecological systems which might completely destroy a particularly valuable natural resource, would be far less likely.

Hopefully, then, man and nature would be able, eventually to live in productive harmony.

A program of ecological research would be of material assistance in advancing our Nation's efforts in the challenging task of our arresting, if not reversing, the unacceptable trend toward further deterioration of the national environment. It would also serve, eventually to elucidate scientifically the conditions on which continued successful and satisfying human existence on this earth, particularly in the United States, must be predicated.

It will be appreciated if you will include these remarks favoring passage of S. 1075, in your record of hearings, when held. In our view your proposal would help promote a concept of research that is badly needed *now*, while there is still time available before all of the fish and wildlife become endangered species.

Thank you.

Sincerely,

PHILIP A. DOUGLAS,
Executive Secretary.

STATEMENT OF ANTHONY WAYNE SMITH, PRESIDENT AND GENERAL COUNSEL,
NATIONAL PARKS ASSOCIATION

My name is Anthony Wayne Smith. I am President and General Counsel of the National Parks Association, 1701 Eighteenth Street, N.W., Washington, D.C. I appreciate the invitation to testify on the above subject.

The National Parks Association is the leading national conservation organization having primary responsibility for helping to protect the National Park System, but having a concern also for other comparable natural areas and being committed to the protection of the entire natural environment for human habitation.

The Association has a membership of about 42,000 persons who receive the monthly National Parks Magazine. It was founded in 1919 at the behest of Stephen T. Mather, the first Director of the National Park Service, and is celebrating its 50th anniversary this year.

The establishment of a Council of Environmental and Population Advisors, responsible directly to the President of the United States, would be one of the most important contributions the Congress could possibly make to the welfare of the American people.

We have a great many agencies of the Government which are involved in one way or another in the management of natural resources for the operation of programs affecting the life environment of the American people. At the present time many of these agencies are working at cross-purposes.

It is quite important that a top level institution be established with power to bring their operations into a semblance of harmony. It is also important that this kind of harmonization of programs proceed in the perspective of a set of goals formulated by policy-minded persons not involved in the pulling and tugging of the operating agencies and their respective clienteles.

Just for example, practically all of the organizations in the United States concerned with resources and the environment have banded together to protest to the Secretary of Transportation against the construction of a huge jetport in the Everglades country in Florida. This jetport would probably destroy Everglades National Park, to which the State of Florida and the United States have committed large funds in the past and in which the American people have a great interest, and would result in serious environmental damage in terms of water pollution, air pollution, pollution by insecticides and fertilizers, noise pollution, and comparable destruction. On the one hand we have the Department of the Interior, the National Park Service, and other agencies concerned with the preservation of the life environment, and on the other hand, working against them, agencies like the Federal Aviation Administration and the Federal Transportation Administration, pushing for construction.

This is just one example. In the Potomac River Basin we have the Army Engineers pressing for the construction of a large number of big dams, ostensibly to dilute pollution and provide water; and hopefully on the other hand the Federal Water Pollution Control Administration working for the prevention of pollution, which would make dilution unnecessary and would provide pure water without much storage. A great coalition of farm, labor, conservation, and citizen organizations arose some years ago to protect the Potomac from the Army-type dams, and great efforts are being expended throughout the Basin by American citizens, fighting their own Government bureaus. We need to get the question settled as to what we really want to do with our river basins: build useless pyramids? Or protect a decent life environment for human habitation?

It has been suggested that some kind of Presidential-level agency can be established by Executive Order which would serve the purpose of the coordination which everyone now agrees is necessary. I have endorsed this approach at times in the past as one possible solution, but would now strongly urge that a Council of Environmental Advisors be established by Statute, comparable to the Council of Economic Advisors, which has certainly proved itself to be a valuable institution.

We have had a President's Council on Recreation and Natural Beauty in the Executive Offices of the President for several years. It has not worked well in practice. It was established by Executive Order and consists of the Secretaries of the various Departments and Agencies thought to be concerned with environment and natural resources. The difficulty is that the Secretaries and heads of these agencies never attend meetings themselves; they send second or third string people without authority to act, and the Council has normally been paralyzed. The chairmanship of the Council has rotated and has most recently been vested in the Vice President of the United States; but staff procedures within the office of the Vice President and Bureau of Outdoor Recreation, assigned by Executive Order to the work of the Council, have prevented effective action. I can see no difference between these institutions, as they presently exist, and the proposal to establish a new inter-departmental coordinating group by Executive action, even though chaired by the President himself (he would probably depute a subordinate), or by the Vice President, as has been the case in the past. The situation calls for something much stronger than this.

Up until now the Bureau of Outdoor Recreation has attempted to function in a staff capacity to the President's Council on Recreation and Natural Beauty. The organic law of the Bureau of Outdoor Recreation gives it the power to recommend coordinating policies to the various Federal departments and bureaus. The Executive Order makes it the staff agency to the President's Council. In practice the President's Council has agreed upon seven inter-agency policy statements on matters involving parks, recreation, etc. These statements have been implemented by signed inter-agency agreements. Supposedly they could be enforced by a mere word from the President or Vice President, but they have not been effectively enforced. I have urged for several years that this machinery was available and that it should be used; but it now seems clear that it will not be used and for that reason I think that statutory institutions are needed.

Several years ago Congress established a Water Resources Council consisting of the heads of the departments and agencies having one or another kind of responsibility for water and water-related resources management, with a separate

staff and director. The Council has engaged itself in coordinating the preparation of water-related resources plans on a river basin basis. A number of regional commissions have been created, and in some instances interstate compacts have been suggested. There is no indication that any adequate retarding operation has been developed to protect the people in our river basins against over-pretentious programs which will do more harm than good. It is possible that a measure of coordination has been achieved, bringing greater efficiency in pushing programs which ought to be stopped.

We have also seen the recent establishment of a National Water Commission comprised of persons not presently associated with the resources and construction operating agencies. This is a relatively temporary group; its members serving without security or indications of continuity, have inadequate staff facilities and authority. We may not hear very much from it; something much stronger is needed.

The new proposals to re-cast the inter-departmental administrative structure by Executive Order will be no more effective than the old arrangements. What is needed, in my judgment, are the following:

1. A President's Council of Environmental and Population Advisors comparable to the President's Council of Economic Advisors, should be created by law.

2. The Council should consist of three or five persons nominated by the president and confirmed by the Senate of the United States, who should have tenure for a substantial period of years to make certain that they are not merely political appointees.

3. The law should specify that the members of the Council should be persons with policy minds, capable of formulating long range goals for environmental management in the United States and having no connections, whether active or as retired persons, with any operating agency.

4. The members of the Council should be well paid and provided with all the fringe benefits, particularly security, necessary to attract top talent.

5. The Council should have its own paid staff, and the authorization should not be limited to any specific amount, but should be capable of providing appropriations in whatever measure may be deemed necessary from time to time.

6. The Council should have authority to enter a stop order in the name of the President of the United States against any construction project or other program of the Federal Government which it deems may have an adverse effect on any aspect of the life environment of the American people, pending full review by the Council.

This stop-order authority is of extreme importance. We have had coordinating agencies which served merely to expedite the environmentally destructive activities of the existing agencies, to move them ahead ever more rapidly, to eliminate conflict among them, and in the end to make destruction more efficient.

The technological capabilities of modern man have in many instances outrun his ability to plan for the use of these capacities; not construction, but destruction has been the result; the need is not for acceleration, but for delay sufficient to inform us about both destinations and tendencies. In other words, we need to slow up before we destroy ourselves. A stop-order authority in the hands of the President of the United States on recommendation of the proposed Council of Environmental and Population Advisors is an imperative necessity.

7. The problem of environmental protection has two facets: first, perhaps good planning in terms of purposes, coupled with a braking operation to make sure that ecological and sociological complexes are not seriously disrupted by so-called progress, but secondly, the question of congestion, overcrowding, over-population. By almost any test you can apply, atmospheric pollution, water pollution, poisoning by pesticides and even fertilizers, noise disturbance, traffic congestion, and a multitude of others, this nation is already over-populated. Unless we can reduce our rate of reproduction to an average of 2.2 children per woman in the future, our population will continue to grow and congestion will choke our standard of living. The problems of protecting our life environment which lie ahead of us will become overwhelming unless we can stabilize (and hopefully reduce) our population. No matter what efforts are made by private groups along educational and moral lines, vigorous action by Government in terms of education will be needed if we are to cope with this problem in time. Protection of the environment cannot be separated from the problem of population; hence, the Council of Environmental and Population Advisors must have express authority to make recommendations to the President on demographic issues. This necessity has not been considered, so far as I am aware, in any of

the legislation thus far presented; but such legislation will be a massive futility unless this additional consideration is introduced. By whatever name, the agency under consideration should be a President's Council of Environmental and Population Advisors; there should be specific provision in the law that at least a minority of the members of the Council have professional qualifications in the demographic and population fields.

The conservation and population organizations in this country know very well that they are fighting with their backs to the wall at present. Governmental agencies are working at cross-purposes, but sometimes this is good because it blocks action in the wrong direction. Fundamentally the trouble is that the agencies are working without properly formulated social goals; many of the results are destructive, and the private, educational and scientific institutions which are wrestling with these difficulties find themselves putting out one fire after another.

This Committee could render no greater service to the American people, and indeed to the people of the world, who will follow America's example, than to establish by law, with adequate funds and staff, a Council of Environmental and Population Advisors, serving the President of the United States, at the earliest possible opportunity.

STATEMENT OF EDWIN M. WHEELER, PRESIDENT, NATIONAL PLANT FOOD INSTITUTE

The National Plant Food Institute appreciates the privilege of presenting a statement to the Committee on Interior and Insular Affairs regarding the bill proposed by Chairman Jackson and referred to this Committee on February 18, 1969. The National Plant Food Institute is a trade association composed of more than 100 fertilizer manufacturers and sales organizations across the nation. It is the principal spokesman for the fertilizer industry, one of the major industries helping provide food, fiber, and shelter for the peoples, not only of this country, but in much of the world.

Regarding the proposals in S. 1075, we feel that while the intent is commendable, the scope falls far short of being able to accomplish the multiple tasks at hand.

Analysis of S. 1075 convinces us that its greatest single weakness, as well as that of legislation already enacted into law with respect to pollution, is omission of the United States Department of Agriculture.

As every committee member is aware, most of the non-urban land resource, dollar-wise, in this country is devoted to agriculture in one form or another, and of the four billion tons of sediment lost annually to streams and lakes, one half comes from the agricultural sector.

The Secretary of Agriculture is charged with the responsibility of conserving soil and water.

Presently, the Department of Agriculture is undertaking research on the disposal of livestock waste of which there are more than 1.7 billion tons every year, and the quantity is increasing. Plans for this research and for research in other segments of agriculturally related pollution are set forth in the recent report by the Secretary of Agriculture and the Office of Science and Technology entitled: A Report to the President, Control of Agriculture-Related Pollution.

Implementation of this report should receive serious consideration by the Congress because we are firmly convinced that it will be futile for any of the various agencies of the government to attempt to solve solid waste disposal problems without the leadership and direction of the United States Department of Agriculture.

Indeed, if ways and means of controlling loss of sediment and the valuable nutrients contained in this sediment are to be obtained at the least possible cost to the taxpayers, the U.S. Department of Agriculture and the land-grant universities must not be overlooked in the basic legislation now under consideration.

Should the agriculture sector be overlooked in new legislation, it is our firm belief that taxpayers' money will continue to go down the drain year after year with the same problems still remaining to be answered, and with no hopes of solving future problems to be faced by most segments of agriculture as crop and livestock production systems become more and more intensive.

The National Plant Food Institute believes, above all, that both intensive and extensive field studies must be initiated immediately if answers are to be obtained in time to avoid undue alarm of the lay public by some of the so-called

experts among us who daily are at work attempting to justify huge research grants to build up their own investigational laboratories and programs.

Title II of this Act, intended to create in the Executive Office of the President, a Council on Environmental Quality likewise makes no mention of agriculture. It would seem to us that the agricultural sector of our economy, including production, processing, transportation, and distribution of food, fiber, livestock and livestock products, and employing more than 40 per cent of our people, contributing one fourth of our gross national product, and with the United States Department of Agriculture having prior congressionally assigned responsibility for protecting our agricultural lands and national forests, is too important to be overlooked.

We feel that any new legislation to upgrade the quality of our environment should specifically include the Department of Agriculture and that any new Environment Council should include the Secretary of Agriculture, or his designee. (Actually, we feel that such a Council should not be established by law but, instead, should be appointed by the President.)

Again, may I say that we appreciate having this statement made a part of the official record.

STATEMENT BY ANDREW J. BIEMILLER, DIRECTOR, DEPARTMENT OF LEGISLATION,
AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

Mr. Chairman: My name is Andrew J. Biemiller. I am Director of the Department of Legislation, American Federation of Labor and Congress of Industrial Organizations. I am also Chairman of the AFL-CIO Staff Committee on Atomic Energy and Natural Resources.

On behalf of organized labor I wish to convey its endorsement of S. 1075 with amendments. This legislation—The National Environmental Policy Act of 1969—would create a statutory Board of Environmental Quality Advisers, establish a national environmental policy and authorize the necessary studies, research and surveys to carry out the purposes of the Act.

For more than a decade, organized labor has been actively concerned with the deteriorating quality of man's surroundings in this Nation. We have also increasingly realized that this deterioration has achieved global proportions. The 20th Century and in particular, the period of the last two decades, has witnessed enormous technological changes, coupled with more and more people, the crowding of these people into cities, major revolutions in transportation, resources use, all producing vast and increasing demands on energy, minerals, raw materials, water and land.

These tremendous changes have brought about increases in material standards of living and the potential release of mankind from the fetters of his natural environment. But at the same time, the forces that have been released by these processes have gotten almost out of control. They have become so enormous and so impersonal that they are impacting man's physical habitat and his social organization as well.

The crucial task that this Nation and the World now faces, is to find ways of harmonizing the polarized extremes of the natural system of evolution with the deliberate manipulation of natural evolutionary processes by man. Human freedom and human well being depend on how well this challenge is met.

In our opinion, S. 1075 is a necessary first step toward an eventual solution of this Nation's environmental crisis. We endorse the formulation of a national environmental policy as contained in Title I of the bill and the establishment of a Board of Environmental Quality Advisers, who will have the responsibility of attempting to achieve a coherent interpretation and administration of federal laws and programs in accordance with the policies of this Act. In so doing, the responsibilities of the Board will be particularly delicate as it will be necessary to achieve a sound and sane balance between the need to utilize resources to maintain economic growth and stability and to guard against their misuse in such fashions as will produce adverse environmental effects, some of which could be irreversible.

It will also be necessary to develop alternatives and to resolve conflicts of uses of various kinds of resources.

The AFL-CIO was of course pleased by the recent action of the President to create a cabinet level Environmental Quality Council, together with a Citizens Advisory Committee on Environmental Quality. However, we regard this in no way a substitute for the statutory program embodied in S. 1075. It is hardly possible that the cabinet level council can, because of the press of other duties, devote adequate time to this enormously complex problem. Moreover, our experience with advisory committees brings us to conclude that they are no substitute for responsible decision making by a government agency authorized and directed to carry out congressional policies.

We think it should be made plain that the successful prosecution of the program contained in S. 1075 depends in large measure on mutual understanding and helpful advice and assistance from non-governmental organizations and individuals which have important contributions to make. There is nothing in this legislation as we understand it, which would preclude such intercommunications between the Board of Environmental Quality Advisers and the scientific communities, labor, management, conservation and other interested organizations.

As I said in the beginning, it is our belief that S. 1075 is a necessary first step to bring order out of chaos on the environmental front in this Nation, to take meaningful steps toward international cooperation to reduce global insults to the air, water, land and the cities of mankind.

(Additional information, "Man and His Environment," furnished by the AFL-CIO, is printed as exhibit 3 starting on page 208.)

Senator ANDERSON. Thank you all very much. This is a fine meeting we have had. We are glad to have had you.

The hearing is adjourned.

(Whereupon, at 4:55 p.m., the hearing was adjourned.)

APPENDIX 1

Summary of Findings and Recommendations, Resources and Man,
Prepared by the Committee on Resources and Man, National Academy
of Sciences-National Research Council. (Entire report to be published
by W. H. Freeman and Company.)

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PREFACE

No one can predict the future in detail. Past efforts to do so seem naive in retrospect. Nevertheless, we can foresee the probable consequences of some of our actions or failures to take action, and we owe it to those who will follow to look ahead as far as we can and over the broadest scope possible. The goal should be to avert the thoughtless foreclosure of options.

The problems that face mankind, however, are so numerous and so complex that it is easy to take the position that all we can or should do is to work at such clearly researchable components as fall within our individual competence. Yet the larger questions will go forever unresolved if we decline to attack them merely because they appear hazy and insoluble to us in our lifetimes. We must soften them up by constant pressure so that they will yield the more readily to better-informed minds and more-advanced means in the future. It was in this spirit that the Committee on Resources and Man approached its task.

Peace, population, pollution, and resources are the central interlocking variables whose unsatisfactory management threatens our options. Views about this threat tend to be pessimistic or optimistic, depending on the extent to which they focus on the magnitude and ecological complexity of the problems or on the impressive technological capabilities with which we confront them. In attempting better to understand the reasons for this polarization of views about resources, and to define its task, the Committee on Resources and Man canvassed a range of judgments and supporting evidence. During four three-day conferences with informed persons representing a diversity of opinion, and in our discussions as a committee and with individuals, we sought a balanced consideration of varying views rather than their reconciliation. The problems we have attempted to assess will be reduced neither by euphoria nor by gloom, but only by

realistic formulation and action. The adequacy and the quality of resources, both in the near future and in the decades and generations ahead, are confining forces of major and increasing magnitude, and many of the variables that affect them are insufficiently known. Unremitting, imaginative, determined, and large-scale effort will be necessary to deal with the consequences of these facts.

Although there is disagreement among informed persons as to the magnitude and specifics of our resource problems, as well as about the best solutions to them, there is no disagreement within our Committee either as to their urgency or as to their long-range aspects. Complacency, delay, and short-range views jeopardize our chances of finding satisfactory solutions. Serious dangers beset us already, and greater ones loom in the future. People are in trouble, even around the North Atlantic—in large part because there are too many of them. Hardship can be reduced and its increase averted only by persistent efforts involving all sectors of society. Flexible plans of long range and large scope are needed to assure the sufficiency and integrity of our environment. They must be based on informed foresight and designed to preserve a variety of choices for the future.

Precipitous haste, however, would be almost as bad as undue delay. Thus, instead of comprehensive plans, what we propose here are some steps toward their early evolution. We hope, by viewing selected critical aspects of the resource picture in an ecological context, to make clear the need for more comprehensive evaluation and wiser use of our resources. In stating this need, we recognize that without peace and population control even the most detailed knowledge and otherwise wisest management of resources are to no avail, and that a study of resources that bypasses questions of ample pure air and water is incomplete. The latter questions, however, are now coming increasingly into the public awareness. We wish to focus comparable attention on resources other than air and water as equally vital components of modern and future industrial societies.

The intent of our report is evocative. We mean it to be a brief but reasonably balanced introduction to the problem of man's relation to his resources, concentrating on issues central to a rational perception of the problem rather than on detailed estimates and projections. If it expresses judgments at odds with those of others, that is part of our contribution to the continuing discussion. The important thing is that the discussion continue, and that it give rise to policy and to thoughtful action or deliberate inaction.

If the future falls short of our hopes for it, let it be in consequence of imperfect judgment rather than none.

SUMMARY AND RECOMMENDATIONS

"There are three imperatives: to reduce war to a minimum; to stabilize human population; and to prevent the progressive destruction of the earth's irreplaceable resources."—Sir Macfarlane Burnet, 1966.¹

SUMMARY

This report is about problems that confront man in seeking a durable accommodation with his natural resources. Concepts of resources, to be sure, change from time to time and place to place, but the general notion is always of something necessary or useful, like food, clean air and water, and materials that skilled hands and discerning minds can turn to the improvement of the human lot. Various aspects of man's relation to his resources are considered in the chapters that follow; here we state the main themes of our study.

The central question is: can man approach a kind of dynamic equilibrium with his environment so as to avert destructive imbalances? Ultimately this question involves the entire globe and the distant future. We have chosen, however, to concentrate here on material resources other than air and water, and on North America—although with global cognizance and in ecological context. As for time scale, we have tried to look well beyond the year 2000, but to keep the shorter term in view. In order to focus on the issues that seem to us to block a general appreciation of the importance and gravity of resource problems, and in the interests of brevity, we have also left out much detail that might have been included in a technical report. Thus we often find ourselves dealing with methods of making estimates, and with their limitations, rather than with the commonly

¹ In "Ecology and the Appreciation of Life," The Boyer Lectures; Australian Broadcasting Co., 45 pages.

uncertain estimates and projections themselves. It is especially in this combination of analysis of underlying assumptions, ecologic orientation, broad scope, and brevity that our report differs from most previous resource assessments.

In preliminary discussions we asked particularly what resources are vital to our well-being and economy now, which are likely to be vital in the future, what substitutions and technological innovations might modify resource priorities, and what limits are placed on population and material growth by resource availability. We also considered the consequences of limited supply of resources, and of varying social and economic concepts that affect their use and adequacy. Such considerations bring out a major difficulty with the planning process: a series of separate decisions, each individually justifiable, can, in the aggregate, lead to results which, had they been foreseen, would have been avoided. To a degree, therefore, we have attempted to view resource management under alternative assumptions about socio-political response and technological evolution, but only enough to indicate that far more extensive analysis of such alternatives will be needed to develop comprehensive resource policies of long-term validity.

Be that as it may, a prime conclusion of ecology is that species whose populations exceed or approach too closely the carrying capacity of resources in the space occupied undergo reduction. Such reductions are often severe, or may lead to extinction—because of disease, pestilence, predation, or aggressive competitors. Although it is true that man has repeatedly succeeded in increasing both the space he occupies and its carrying capacity, and that he will continue to do so, it is also clear that both the occupiable space and its carrying capacity have finite limits which we will approach at our peril.

It is essential, therefore, that we carefully assess and continually reassess these limits, and that we take steps to assure that future generations, as well as people now living, will have the resources necessary for a satisfying life. These resources, moreover, must be so distributed as to exclude catastrophe as a factor in limiting population density. As Marston Bates stresses in Chapter 1, few species of animals ever really live up to the absolute limit of their food supply under natural conditions—other controlling factors intervene, often of the sort that humans would call psychic or psychosomatic. Man also must adapt to his ecosystem—to his physical environment and its biological components. We cannot long operate as a force apart from it, for we are not. Above all, we must be wary of man's tendency to reduce the variety of components in his ecosystem, for this increases its susceptibility to adverse change.

Much of the earth now is threatened with poverty and famine as a result of population increases that locally exceed the carrying capacity of the land. In greater or lesser degree the same danger potentially lurks in all parts of the earth, as Malthus first clearly recognized in 1798. Wishful thinking does not banish the problem. Harrison Brown asked in 1954²: "Is betterment of the situation really within the realm of possibility? And if betterment is possible, at what level can the greatly increased numbers be supported? Lastly are the earth's resources sufficient to meet the enhanced demand?" The same questions haunt us with increasing intensity, as yet almost unrelieved by significant decreases in rates of population growth. By average American standards two-thirds of the world's people are still ill-fed, ill-housed, and ill-clothed, including many in North America. What can we in North America do to aid our own underprivileged, to meet the population increases that will yet precede real population control, and to help the rest of the world?

The answer is that much can be done, given sufficient effort in resource management. But other dangers arise. The quality of life, which we equate with flexibility of choices and freedom of action, is threatened by the demands of an expanding economy and population. This happens in three principal ways: (1) in the restrictive and harmful effects of pollution; (2) in the increasing frequency and complexity of unconstructive but unavoidable human contacts; and (3) in the necessary increase of regulatory measures—all in consequence of increasing use of and competition for resources, space, recreation, transportation, housing, and even educational facilities.

Thus, in addition to energy, mineral, and food resources, the quantity and quality of the human resource itself are critical components of the equation. As John Chapman brings out in Chapter 2, man is not only a part of his ecosystem: he is the most powerful influence in it. He is simultaneously its potentially most precious resource, and its most serious threat. The gains from technological development must always be balanced in as much detail as possible against its

² *The Challenge of Man's Future*, Viking Press, p. 61.

costs. Man's own best interests plead for a more generous attitude toward the rest of nature and less materialistic measures of well-being and success—above all in the developed countries. In such a world it would be easier to bring about dynamically balanced relations between needs and quantity of materials on the one hand and between quality of life and quantity of consumers, on the other.

The growing quantity of people is a key factor whose future dimensions we should like to be able to estimate. Problems involved in that estimate are discussed by Nathan Keyfitz in Chapter 3. Only two things seem certain—there are going to be more people in the future and they will live in denser aggregates. The number of people to be accommodated by the end of the century, moreover, adds a new dimension to current crises. To accommodate these populations, the developed world will require, by the year 2000, additional urban facilities equivalent to all of those already in existence, and correspondingly more for the underdeveloped world. This calls for an entirely different view of our cities and their resource requirements than if we think only of ameliorating specific crises step-by-step as they arise. Complete urban renovation, the creation of new and better living clusters throughout the country, and better and more diversified use of suburban and rural space are a big order; but it is an order that is practicable, necessary, and urgent. There is no simple "best solution." A variety of solutions must be tried, and for all of them the resource-component (including clean air and water) will be central.

Somehow we must manage by the year 2000 to support a population increase in the United States from the present 200 million to somewhere between 300 and 340 million; and an increase of world population from more than 3.3 billion (10^9) to between 6 and 7 billion—an increasing proportion of them in cities. Failure to produce that support would have unacceptable consequences. Population control, essential in the long run, cannot come soon enough to eliminate that challenge. To stabilize populations requires that birth rates not exceed 14 live births per year per thousand people at the 70 year life expectancy sought as a goal for all. Only Hungary, Japan, and Bulgaria currently have birth rates that low. This shows that it can happen, but, as Kingsley Davis has recently emphasized (*Science*, v. 158, p. 730), the inadequate measures that now pass for population control at best eliminate unwanted births. Birth rates over most of the world cannot be brought to control-levels by presently acceptable measures. A zero or negative rate of population increase must be the ultimate goal: but, in the meanwhile, the increasing number of people to be accommodated will severely tax the capacity of the human ecosystem.

Nutrition is the first essential; yet problems of distribution, of local failure to exploit potentialities, and with social customs that dictate what food is acceptable are more immediately urgent than those of quantity available or producible on a global scale. If present world food production could be evenly rationed, there would be enough to satisfy both energy (calories) and protein requirements for everyone—although with drastic reductions for the affluent. All-out effort, including the provision of ample fertilizer and genetic, ecological, and chemical research, could probably quadruple production from the lands and double production from the waters by the end of the century. If such increased production were evenly distributed, it could keep up with population growth expected during the same time and even permit some improvement of diet.

The probable ultimate increase in productivity from the waters is not likely to be much more than about two and one-half times the present production of 60 million metric tons annually—an estimate that emerges from W. E. Ricker's analysis of marine production in Chapter 5. *An increase to as much as four times present production is unlikely.* Perhaps the most important thing to bear in mind about aquatic food products is that they are an excellent source of protein, but a very inadequate source of calories. These only the land can supply in anything like adequate quantity; and an eventual production from the lands of possibly eight times the present production is foreseen by Sterling Hendricks in Chapter 4. To attain this, however, will call for maximum increases in productivity of existing lands, cultivation of all potentially arable lands, new crops, the use of more vegetable and less animal protein, continued risky use of ever-new but, we may hope, degradable biocides, chemical or microbiological synthesis of foods, and other types of innovation.

Foreseeable increases in food supplies over the long term, therefore, are not likely to exceed about 10 times those now available. That approaches a limit. And it seems to place the earth's ultimate carrying capacity at around 33 billion people, *at a level of chronic near-starvation for the great majority!* A world-population of 33 billion is only slightly more than three doublings from the pres-

ent. Allowing for modest fertility decreases, such a figure could be reached by about 2070 in the absence of other controlling factors. More cheerful allowances suggest (Chapter 3) that populations *may* level off not far above 10 billion by 2050; and that is close to the maximum that an intensively managed world might hope to support with some degree of comfort and individual choice, as we estimate such immeasurables. If, in fulfillment of their rising expectations, all people are to be more than merely adequately nourished, effort must be made to stabilize populations at a lower world total than 10 billion. Indeed, it is our judgment that a population less than the present one would offer the best hope for comfortable living for our descendants and long duration for the species.

Man must also look with equal urgency to his nonrenewable resources—to mineral fuels, to metals, to chemicals and to construction materials. These are the heritage of all mankind. Their overconsumption or waste for the temporary benefit of the few who currently possess the capability to exploit them cannot be tolerated.

Energy resources are considered in Chapter 6, by M. King Hubbert. Known or potential energy resources include water power, tidal power, geothermal power, solar energy, and mineral fuels. Of these, water power, if fully developed, would be about equal to that currently generated from fossil fuels. It is erratically distributed, however, and reservoirs silt up. Tidal power and geothermal power are only locally available and are more than two orders of magnitude smaller than water power. And solar energy, although daily renewable and enormous in amount, offers little promise as a major source of industrial power because of the difficulty of achieving the essential concentration and continuity.

Sources of power for the future are to be sought among the mineral fuels, and above all in nuclear energy. It will take only another 70 or 80 years to use up most of the world's initial supply of recoverable crude oil and natural gas! The remaining lifetime for coal, if used as a principal source of energy, would be about three or four centuries. Moreover, we cannot simultaneously use the "fossile fuels" for fuels, petrochemicals, synthetic polymers, and bacterial conversion to food without going through them even more rapidly. A major side-benefit from converting to nuclear energy as our main energy source, therefore, could be the adoption of measures to conserve the "fossile fuels" for other useful purposes, and for *essential* liquid fuels.

Nuclear power from naturally fissionable uranium-235 and from fissionable isotopes obtained by neutron irradiation of uranium-238 and thorium-232 is potentially much larger than that obtainable from all the fossil fuels combined. The supply of uranium-235 from high-grade ores, however, is severely limited, and the potential of nuclear power can be realized only with reactors having a much better "neutron economy" than the present light-water converters. As the neutron economy improves it becomes possible to utilize an increasing fraction of the uranium-238 in natural uranium, or of the supply of thorium-232. It then becomes feasible to draw on the much larger supply of lower grade ores that are not economically competitive in present converter reactors.

Ultimately it will be necessary to have fully "breeding" reactors in order to tap the known and potential reserves of uranium-238 and thorium-232. The actual evolution of the nuclear power industry, however, will depend on a delicate economic balance between using lower grade ores in conjunction with high-neutron-economy but non-breeding reactors, or going more rapidly toward the fully breeding reactor at the cost of the interim consumption of a larger proportion of the non-fissionable component of the higher grade ores.

Controlled fusion has not yet been achieved and may never be. Should it be, however, the energy obtainable from the deuterium contained in 10 cubic kilometers of sea water would be about equal to that of the earth's initial supply of fossil fuels.

On a long-term basis, an achievement no less essential than a practical nuclear energy economy itself must be the development of an adequate system of safe disposal of nuclear fission products. Much progress has been made within the last decade by the U. S. Atomic Energy Commission in the processing and safe underground disposal of the low-volume, high-level wastes. Less satisfactory progress has been made in the handling of the voluminous low-level wastes and solid trash. In fact, for primarily economic reasons, practices are still prevalent at most Atomic Energy Commission installations with respect to these latter categories of waste that on a small scale are barely tolerable, but that would become intolerable with increase in the use of nuclear power by a few orders of magnitude.

The non-fuel mineral resources are very unequally distributed, both as to location and as to grade. No nation is self-sufficient in all of them, even in the short term. The ultimate resources of major industrial metals such as iron and aluminum, to be sure, are very large; for their availability depends mainly on improvements in recovery methods. But true shortages exist or threaten for many substances that are considered essential for current industrial society: helium, mercury, tin, and tungsten, for example. Known and now-prospective reserves of these substances will be nearly exhausted by the end of the century, or early in the next, and new sources or substitutes to satisfy even these relatively near term needs will have to be found. It is not true, although it is widely believed, that tonnages of metalliferous rock generally increase geometrically with arithmetic decrease in grade. Much of Chapter 7, by T. S. Lovering, is devoted to showing why this is an invalid generalization that encourages a dangerous complacency. Neither is abundant cheap energy a panacea for waning resources. Innovation of many kinds will be needed—in methods of finding ore, in mining, in extraction of metals, in substitution, in transportation, and in conservation and waste disposal. For all reusable materials in short supply, appropriate laws or codes restructuring economic incentives could facilitate conservative recovery, more efficient use, and reuse, thereby appreciably extending now foreseeable commodity lifetimes.

It is not certain whether, in the next century or two, further industrial development based on mineral resources will be foreclosed by limitations of supply. The biggest unknowns are population and rates of consumption. It is self-evident, however, that exponential increases in demand cannot be satisfied indefinitely. If population and demand level off at some reasonable plateau, and if resources are used wisely, industrial society can endure for centuries or perhaps millenia. But technological and economic brilliance alone cannot create the essential raw materials whose enhancement in value through beneficiation, fabrication, and exchange constitutes the basic material fabric of such a society.

The mineral and chemical resources of the sea (Chapter 8) will increasingly supplement those from the land—but only for a few of the many commodities we need. Information on which to base a durable assessment of such resources is not now available, but it can be expected to improve as research and exploration increase. Although ocean waters cover two-thirds of the earth, what little is known about the composition and probable history of the three-quarters of the sea-bottom that lies beyond the continental rises does not support the popular belief that this region harbors great mineral wealth. Beneath a thin veneer of young sediments the floor of the ocean basins appears to consist of young basaltic rocks, only sparsely metalliferous, and in constant slow motion toward and beneath the continents. Much more promising are the potentialities of the submerged parts of the continents—of oil from the sediments of the continental shelves, slopes, and rises; and of mineral placers near the coast. Sea water itself is also an important source of some useful elements and salts, but only for a few of those needed.

On the one hand, therefore, mineral and mineral-fuel production from the sea are certainly worth going after, and will increasingly help to meet needs and shortages in certain commodities. On the other hand, there is as yet little basis for assuming that many marine mineral and chemical resources are of large usable volume or feasible recoverability; or that for many essential substances there are any marine resources at all. The existing four billion dollar annual world production of offshore mineral resources is sufficient evidence that profits are to be had from the sea. Its ability to supplement the mineral resources of the lands in the needed variety of products is quite another matter.

To summarize this summary, Chapters 1 and 2 of our report pose the problem: if resources are finite, then, as population increases, the ratio of resources to man must eventually fall to an unacceptable level. This is the crux of the Malthusian dilemma, often evaded but never invalidated. Chapter 3 considers the possibility of a final evasion of this dilemma by population control. Chapters 4 through 8 consider the possibility of escape by increasing resources of food, energy, and minerals, each chapter dealing with essential but not coordinate aspects of the problem. The inescapable central conclusion is that both population control and better resource management are mandatory.

We must add an amplification, however. Studies of animal populations suggest that environmental factors other than simple limitation of material resources may act in unexpected ways to limit populations before theoretical maxima are reached. To consider whether the earth might support a human population ten times that now existing is probably to consider a purely hypothetical situation.

It seems more likely that further crowding, the necessary social and governmental restrictions that accompany dense settlement, and certain kinds of boredom resulting from isolation from nature in an immense, uniform, secular society may prove so depressing to the human spirit or so destructive of coherent social organization that no such population size will ever be reached. Current urban problems are perhaps premonitory of what can come in the absence of more effective attention to the broader problems of resources and man. In attempting to deal with such problems we would do well to consider the basic causes as well as the symptoms.

More specific recommendations arising from this study will be found in the following section. The words we would choose to express the essence of our hopes for the future, however, have already been written—"Our goal should be not to conquer nature but to live in harmony with it." (Roger Revelle, 1967).³

RECOMMENDATIONS

This study highlights the need for better information on which to base an improved assessment, not only of the natural resources of the nation and the earth, but also of the likely future demands on them and of their deeper societal implications. Although no real *terra incognita* remains today, we have much to learn about what we have, how to estimate it, and how to manage it in the best interests of man and nature. The Malthusian limits are more likely to be extended by recognizing their validity and doing something about them than by thoughtless ridicule. We suggest below, therefore, some of the steps that should be taken by the United States to enhance the prospects of an ample world for all.

These recommendations are not intended to be comprehensive or rigorously systematic. Rather their aim is to highlight the steps that most deserve to be initiated or intensified by reason of their special relevance, timeliness, or high potential value to society. They are arranged, according to their main aspects, under four broad categories: I Early Action, II Policy, III Research, and IV Organization. Listed after each recommendation, as appropriate, are the chapters in which substantiating discussion is to be found. Where no specific chapter reference is given, the recommendation is one of those that emerged from the study as a whole, including discussions at our several exploratory conferences.

I. EARLY ACTION

The Committee on Resources and Man recommends that early action be taken on the following:

1. *Detailed assessment of the actual and potential agricultural and forest lands of the world and their classification into best-use categories; together with increased technical help to the farmers of the world.* Many parts of the world are not as productive as they could be, and the fact that others are unproductive arise for poorly understood reasons. Special problems exist in the tropics (Recommendation 19) where the United States should establish a laboratory and field organization for tropical agriculture. This recommendation calls for action by the Department of Agriculture with the collaboration of the State Department and the United Nations.

Chapter 4

2. *A large increase in the level of effort directed toward a comprehensive geochemical census of the crustal rocks of the nation, the continent, and the earth, including those parts beneath the sea.* Better knowledge than we have of the distribution and abundances of the elements is needed to define the world's metallogenic provinces, to develop new exploration techniques, to identify substitutes for materials in short supply, and to designate substances with a variety of physical and chemical properties for consideration in the design of new products. A geochemical census, of course, must be done in the framework of adequate geological mapping, sequence control, and investigations into a variety of geological processes. Such studies ordinarily need lead times of a decade or more before application, but their results can be useful for many decades. The existing program of the U.S. Geological Survey should be intensified and enlarged, and new activities should be started. Global coordination calls for suitable international structures; and with the Geological Survey, the Bureau of Mines,

³ Page 1 of Introduction: in United States Participation in the International Biological Program, U.S. National Committee for the I.B.P., Rept. No. 2.

and university groups playing major operational roles within the United States. *Chapters 6-7.*

3. *That the present Helium Conservation Program be re-evaluated.* Helium is unique in its combination of unusual properties and critical uses. It is essential for cryogenics, superconductivity, cooling of nuclear reactors, exploration of the seabed, and the space program. According to available estimates, it is in short supply, yet it is being wasted in the combustion of natural gasses. Its recovery from these gases and conservation for the future is feasible and is already being done on a limited scale. The adequacy of existing Helium Conservation Program of the Department of the Interior to meet needs beyond the early 21st century requires a careful evaluation. If such an evaluation leaves any question at all about the adequacy of the program it should be broadened without delay to apply to lower concentrations and more natural gas fields. *Chapters 6, 8.*

II. POLICY

The Committee on Resources and Man recommends that the following become matters of national policy :

General policy

4. *To intensify efforts to limit population increase in the nation and the world by whatever means are practicable, working toward a goal of zero rate of growth by the end of the century.* Healthy and intelligent people are man's greatest resource. If limitation of population is not eventually achieved at some reasonable level, moreover, food and other resources will surely be inadequate. With limitation of populations the objective can be shifted from combating starvation and want to the improvement of the human resource and its level of living. Although this recommendation is by no means novel, it emerges again from our study, and particularly from *Chapter 2*, that population control is the absolute primary essential without which all other efforts become pointless. Our Departments of State and of Health, Education, and Welfare should adopt the goal of real population control throughout the world. Ultimately this implies that the community and not only the parents must have a say about the number of children a couple may have. This will require profound modification of current attitudes toward the right of parenthood.

5. *To stimulate innovation of all kinds that will stretch out, renew, enlarge, or substitute for the components of the world's mineral resource base.* A larger energy base, more efficient long-distance transfer of energy, and better transport systems can make available the ores of remote places. Research in the properties, purification, extraction, and fabrication of metals or even non-metals not now used, or used for other purposes, can lead to substitution. New synthetic products made from abundant raw materials should be sought as substitutes for rare or depleting natural commodities. Clad metals (as in present "silver" coinage) can stretch out rare materials and generate new combinations of properties. Man's resources may be limited but his imagination in their use and conservation need not be. Much work of this sort can and should be done under the auspices of the Departments of Interior and Commerce. The need for a constant flow of fresh ideas and new viewpoints, however, will best be met by greater involvement of university groups through sponsored research. Such sponsorship should come not only from mission-oriented agencies, but also from the National Science Foundation in pursuance of its new charter to extend its support of selected areas of applied research.

6. *To promote more pervasive interaction among the environmental sciences, and between them and the behavioral sciences, technology, and the strictly physical sciences.* We need more schools and institutes of environmental science where ecologists, hydrologists, meteorologists, oceanographers, geographers and geologists will work closely together, and with scholars and practitioners from other fields. Such organizations might serve as the cores of new "urban grant" universities intended to nucleate new urban centers, thereby also helping to create the scientific manpower to support the environmental and resource programs needed. More interaction among governmental agencies concerned with different parts of the environment should also be generated, as well as among them and other parts of the scientific and government communities. These goals should be explicitly supported by the National Science Foundation and the Department of Health, Education, and Welfare. Given the interest NSF is now taking in the environmental, applied, and behavioral sciences, institutional structures wherein all could focus simultaneously and in concert on our deteriorating human ecosystem could be a major step toward its improvement.

7. *To pursue the formulation of natural resources policies for the nation, the continent, and the world—through whatever government structures and bilateral and multilateral covenants may best serve such purposes.* Resources are not a one state or one county affair; they concern the whole world and all people. The international character of the formulation of resource policy clearly requires the participation of the Department of State, which must develop the necessary mechanisms to work in close conjunction with the Departments of Interior, Agriculture, and Commerce.

Policy with regard to sources of food

8. *To increase the efficiency and capacity of agricultural productivity, both in the United States and abroad.* This is necessary not only to protect national food reserves, but also to help those countries in need. Overproduction of perishable products must be controlled as well as underproduction, for it is evidence of poor national management and vitiates the improvement of farm production and management. The Department of Agriculture has been working in these directions for a long time, in collaboration with the Department of State and the United Nations. The effort should be continued, improved, and intensified. *Chapter 4.*

9. *To regulate fisheries now declining in yield because of over exploitation, as well as to control the catch of other stocks that will be threatened in the future.* This involves knotty problems of internal jurisdiction and international negotiation, but they must be overcome. In this case the Department of Interior, with the collaboration of the State Department and other organizations, has done what it could. But again the effort needs to be increased, improved, and extended. *Chapter 5.*

10. *To expand fishing efforts toward currently underexploited stocks, both in the sea and in fresh waters.* In this sense "fishing" refers not merely to fish, but to the capture of all kinds of edible aquatic organisms, plants as well as animals. Again the Department of Interior is already interested and further initiative should come from them. *Chapter 5.*

11. *To improve and extend the use of aquatic "farming" operations, not only in fresh waters, but also in marine and brackish water bays and estuaries.* Particular attention should be given to operations that do not compete seriously with use of other resources. Examples would be ponds sited in swamps or on tide-flats, and shellfish culture either on the sea bottom or from rafts. Responsibility for this effort could rest equally with the Department of Interior directly and with the National Science Foundation through its authority under the Sea Grant program. *Chapter 5.*

Policy with regard to sources of energy

12. *To speed the development of high-neutron-economy reactors, including an efficient and safe type or types of breeder reactor(s).* The development of nuclear energy is an urgent national and global goal because of the approaching depletion of fossil fuels and the need to conserve them for other purposes. But without greater utilization of uranium-238 and thorium-232 through breeding or other efficient conversion, the economics of nuclear power is such that the supply of uranium-235 from high-grade ores at current prices could become severely restricted within a few decades. The achievement of nuclear fusion, of course, would greatly extend nuclear reserves in the very long term, and fundamental research in this field should be continued. *Chapter 8.*

13. *To conserve the fossil fuels for uses which cannot be met by other sources.* The fossil fuels (petroleum, natural gas, coal) are needed for petrochemicals, synthetic polymers, and essential liquid fuels, for which suitable substitutes are as yet unknown. They might also play a part in synthetic or bacterial food production (although such a use is also limited). They should not be spent in the generation of electricity, for heating, and for industrial purposes where substitutes can qualify. The Department of Interior should be authorized and directed to develop and institute a practicable and effective Hydrocarbon Conservation Program. *Chapter 8.*

Policy with regard to non-energy mineral resources

14. *To encourage the re-use and better use of materials that can be recycled, and to require this for mineral commodities known to be in short supply.* Incentives should be devised to encourage the optimum use of metals and other materials, as well as proper disposal of spent substances. Research on problems and methods of re-using or otherwise extending the lifetimes of all kinds of materials, as well as the recovery of wasted or deleterious by-products, should be supported,

both for conservation and to reduce problems of pollution and waste disposal. The automobile is a prime target for improvement. The copper content of the average car should be reduced from about 1.4 percent to 0.4 percent or less of the total carcass and problems of recovery simplified. The metals involved could then be used repeatedly, with greatly reduced waste and with elimination of unsightly modes of disposal. New methods of combining metals in clad structures, for instance, make it possible to utilize the desired properties of special metals such as copper with great economy, better structural properties, and reduction to levels that eliminate the adverse effects of mixing. Other targets are the wasteful disposal practices that could be improved to salvage more used metal. Military uses and the exploration of space, of course, are especially demanding on supplies of relatively rare metals. To the many urgent reasons for seeking peace and for damping the arms race must be added the conservation of unreplaceable resources for future generations. In addition, the Departments of Interior and Commerce should be authorized and directed to collaborate in developing and instituting a practicable and effective Metal Conservation Program. *Chapters 2, 6.*

15. *To reduce the lag between the recognition of probable mineral resource shortages and the start of investigations intended to meet them.* On land it takes an average of about five years from the beginning of surface exploration for new deposits to be found and another five years of underground exploration and development to bring them into production. Even longer lead times will be needed in developing marine mineral resources. And very long lead times must be allowed for the surveys and research needed to establish an exploratory framework or to underpin long-range forecasts. Specific recommendations on such matters should be a primary function of the Department of the Interior, which should continue and expand its exploration program. *Chapters 6, 8.*

16. *To accelerate and intensify geological exploration of the continental shelves and borderlands.* Leaving out the obvious need for greater effort on the lands, the continental shelves, slopes, and rises are the parts of the sea that are most likely to contribute useful and abundant mineral commodities to supplement our depleting reserves on land. They should be studied not only for their broad surficial features, but also at depth by drilling, and in areal detail in regions that offer good prospects either of containing mineral resources or contributing to an understanding of their origin. Contiguous areas ripe for such detailed studies include parts of the Atlantic shelves, the continental borderland of southern California, and the Bering shelf. In emphasizing the continental margins, of course, we merely stress the logical priorities. We do not overlook, but rather consider as severely limited, the possibility of resources from the other 75 or 80 percent of the sea. Programs now in progress on the continental shelves by the Department of Interior should be continued, enlarged, and wherever possible improved; and Interior's cooperative efforts with university groups should be increased. *Chapter 7.*

17. *To resolve legal problems involved in marine exploration and mining with as little delay as possible, and to seek international agreements that will facilitate underwater exploration.* Neither national nor international law is really clear as to the limits within which discoveries made may be claimed by private, state, or national interests. Clarification is needed, both to encourage exploration and to avert troublesome disputes over ownership of marine mineral resources beyond the continental shelves. National interests beyond the continental slopes could well be submerged in favor of some workable international jurisdiction such as suggested in the "Maltese Proposition"—with gain for international cooperation and little loss of potential territorial wealth. The Departments of Interior, Commerce, and State should work together on these problems. *Chapter 7.*

III. RESEARCH

Research is clearly an essential component of many of the preceding recommendations, yet there are additional topics in need of intensified research which we believe deserve early attention. The Committee on Resources and Man, therefore, recommends greatly increased research on:

General

18. *The complex of non-material factors that affect man's use of and demand for resources.* Although circumstances beyond its control required the present Committee to bypass most aspects of such a study, its inquiries so strongly reinforce the need for it that we urge the formation of another group to study the various social, psychological, legal, medical, religious, and political aspects of the problems of resources and man that we have been forced to set aside.

What, for instance, are the consequences of man's different conceptual environments—of how he imagines things to be regardless of how they really are? What is the effect of religion and religious differences on the nature of and demand for resources? How can cultural preferences be altered so as to relieve demand on resources and reduce pollution while minimizing social disruption? What are the processes whereby regulation of family-size is best achieved? How do resources and economic factors really interact? What are the resource consequences of technological development and of different densities and patterns of human settlement? As in the case of Recommendation 6, the National Science Foundation would do well to consider this an area of major focus for its growing program in the behavioral sciences. The Department of Health, Education, and Welfare, of course, should also be involved.

Research on sources of food

19. *Tropical lands and crops.* The tropics are among the most thickly populated regions of the earth, yet they produce insufficient food for their populations. This poor productivity in food resources for humans is in part due to the unusual ecological diversity of large parts of the tropical climatic zone. It is also in part because, for geologic and climatic reasons, many non-volcanic tropical soils are deficient in mineral nutrients as compared to those of the middle latitudes. It will require more than good seeds and good management to turn the Amazon Basin into another "breadbasket." Assuming it can be done, it will require enormous quantities of mineral fertilizer and a good share of creative agricultural science. These and interacting sociological and economic factors must be weighed in seeking to develop new food crops that could increase the present productivity of tropical regions without seriously impairing their ecological stability. Like Recommendation 8, this is clearly a job for the Department of Agriculture, with the collaboration of the State Department; but continuation of the good works of the Rockefeller Foundation should be encouraged, and the participation of the National Science Foundation in the longer range aspects of the program through the sponsorship of private institutions is also important.

20. *The productivity of the sea and fresh waters.* How can aquatic productivity useful to man be increased and a larger fraction of food be harvested from the waters without endangering desirable species? The variety and quantity of food products from the sea might be increased (a) by transplantations shown to be feasible as a result of studies of life cycles of organisms and their ecological adaptivity; (b) by more widespread culture of food animals; and (c) by improved methods of capture. More intensive fishing for some species is desirable, whereas for others greater yield must be sought by restricting fishing effort under international agreement. Research alone can produce the information needed to resolve such questions. Like Recommendations 9-11, this recommendation involves a clearly defined mission of the Department of Interior, but it could also appropriately be furthered by National Science Foundation grants in the underlying supporting disciplines such as aquatic biology and ecology. *Chapter 5.*

21. *Methods of harvesting currently unused but edible aquatic organisms.* Many species of marine organisms can be eaten and occur in quantity but are difficult to catch in large volumes. A practicable method for harvesting the larger species of animal plankton, for instance, would permit us to work closer to the base of the food pyramid and thus to utilize a larger fraction of the total stock. Although this would carry the risk of affecting other fisheries adversely, it might be done in regions where the planktonic animals are not being consumed in quantity by usable animals. The small crustaceans called krill, for example, although abundant in both Arctic and Antarctic seas (and formerly harvested by whales) are not now being utilized. This recommendation involves an established mission of the Department of Interior, but the National Science Foundation could also play a part by support for this objective under its Sea Grant program. *Chapter 5.*

22. *The processing, marketing, and consumer-acceptance of products such as fish-protein concentrates.* Proteins and fats from the waters could be much more widely and effectively used in human nutrition if organisms not now acceptable for food as harvested could be concentrated in palatable form. In view of their established missions, this recommendation concerns the Departments of Interior, Commerce, and State. *Chapter 5.*

Research on mineral resources

23. *The geology, discovery, and development of ore deposits.* Especially needed are studies of the genesis, localization, and discovery of ore bodies that have

no surface manifestation—"blind" ore bodies. New methods must be employed in seeking such ore, and better methods are needed in evaluating and recovering it. Concepts of metallogenic provinces also need to be clarified and extended; for they might help greatly with the intensified geochemical census urged in Recommendation 4. Equally needed is research on the geology, exploration methods, and evaluation and recovery of marine mineral resources. The U. S. Geological Survey and the U. S. Bureau of Mines should be encouraged to expand and improve their programs dealing with such problems. *Chapters 6, 7.*

24. *The geology of the sea floor, both on and beyond the continents.* Although prospects of specific rewards should not be called upon or required to justify deep sea geology, *some* new mineral wealth can certainly be expected as a partial consequence. Such bonuses, to be sure, may come as much or more because of a better understanding of the processes involved in generating deposits now on land, as from actual discovery of ore deposits at the sea floor. At the very least, sea floor studies will contribute to better concepts of the structure, evolution, and management of the earth. Such research can and should be undertaken by a number of different government, private, and university organizations, and all should be encouraged. The continued healthy growth of the Sea Grant program of the National Science Foundation, in particular, could serve this end. *Chapter 7.*

IV. ORGANIZATION

A majority of the Committee was of the opinion that new organizational structures may be needed to facilitate the monitoring of resource developments and the evolution of future resource policy, but we could not agree on what kinds of structures were needed or where they should be located. Therefore we recommend that:

25. *A study be made of the monitoring and policy-making mechanisms now in effect with regard to natural resources, with a view to improving existing procedures or establishing better ones.* An efficient and comprehensive review system is needed for identifying prospective shortages and recommending appropriate remedial action well in advance of crisis. Better means than we are aware of are also needed for dealing with the implications of natural resources for national and global policy, with their bearing on national and international well-being, and with new developments that may affect the availability, quality, and use of resources of all kinds. Some members of the Committee believe that a separate and autonomous monitoring body may be needed, such as a Natural Resources Board within the National Academy of Sciences, and that a counterpart executive Office of Natural Resources Policy may be required to deal with policy aspects of the findings of such a board. Others believe that existing mechanisms could suffice. Such differences can be resolved only on the basis of more comprehensive consideration of the problem than we have been able to give it.

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APPENDIX 2

STATEMENT BY SENATOR JACKSON

Early in this session of the Congress, I introduced legislation in the Senate to establish a national policy for the environment. I introduced this measure because it is my view that our present knowledge, our established policies, and our existing institutions are not adequate to deal with the growing environmental problems and crises the nation faces.

The inadequacy of present knowledge, policies, and institutions is reflected in our nation's history, in our national attitudes, and in our contemporary life. We see this inadequacy all around us: haphazard urban growth, the loss of open spaces, strip-mining, air and water pollution, soil erosion, deforestation, faltering transportation systems, a proliferation of pesticides and chemicals, and a landscape cluttered with billboards, powerlines, and junkyards.

Traditional governmental policies and programs weren't designed to achieve these conditions. But they weren't designed to avoid them either. And, as a result, *they were not avoided*.

As a nation, we have failed to design and implement a national environmental policy which would enable us to weigh alternatives, and to anticipate the undesirable side effects which often result from our ongoing policies, programs and actions.

Today it is clear that we cannot continue to perpetuate the mistakes of the past. We no longer have the margins for error and mistake that we once enjoyed.

It was in view of this background and these considerations that I introduced S. 1075, my bill to establish a national environmental policy.

The purpose of this legislation is threefold: *First*, to establish a national policy on the environment; *Second*, to authorize expanded research and understanding of our natural resources, the environment, and human ecology; and *Third*, to establish in the Office of the President a properly staffed Council of Environmental Quality Advisors.

During the hearings on this measure on April 16, Dr. DuBridge, the President's Science Advisor, and Secretary Hickel of the Department of the Interior, announced that the President is considering the establishment of an interagency environmental council composed of selected Cabinet officers. As I stated at the hearings, this indicates to me: "that the President and officials in the executive branch share the belief of many of us in Congress that some reorganization is necessary. The President apparently agrees that the existing administrative establishment is inadequate for the task we face, and that a focal point for the environmental considerations of government should be designated."

It was the initial view of the Administration's representatives that the President's proposed interagency council would make an independent Council of Environmental Advisors as proposed in my bill unnecessary.

For the most part, the members of the Committee and the public witnesses did not agree with their position. There was, however, general agreement by all concerned that there is a need to restructure the Federal government to provide a focal point for environmental considerations.

It is my view that what is needed is an impartial, objective, full-time Council of Environmental Advisors in the Executive Office of the President. The interagency Council the President is considering would be useful for implementing action proposals, but the President also needs independent and impartial advice as to what action to take. The Council I have proposed would be properly staffed and equipped to provide this advice.

As a result of the April 16 hearing on S. 1075 and subsequent discussions with the Administration, I believe that there is now general agreement on the need for both an interagency Council as proposed by the President, and a high level independent body as proposed in my bill.

It is my understanding that an announcement will be made today that the President has signed an executive order to establish the interagency Council on the environment. I applaud the President's action. I intend to seek early Senate action on S. 1075 so that the President and the American people may have the benefit of the independent and impartial staff support and advice of the Council which I have proposed.

During the April 16 hearing on S. 1075, the Administration agreed that there is an urgent need to enact into law a statement of national policy with respect to environmental management, and that they would support a statutory declaration of national policy. Subsequent to the hearings, I directed the Interior Committee staff to draft an expanded statement of national environmental policy which defined our national environmental management goals, and to grant new authority to Federal agencies which, at the present time, have no mandate or responsibility for the management and protection of the human environment.

This expanded statement of national policy has been prepared as an amendment to S. 1075. It will become Title I of the bill and the other titles will be appropriately redesignated. Mr. President, I ask unanimous consent that this amendment be printed in the Record at the conclusion of my remarks.

A statement of environmental policy is more than a statement of what we believe as a people and as a nation. It establishes priorities and gives expression to our national goals and aspirations. It serves a constitutional function in that people may refer to it for guidance in making decisions where environmental values are found to be in conflict with other values.

Many operating agencies do not at present have a mandate within the body of their enabling laws to give substantive attention to environmental values. This is especially true of the older Federal programs.

A properly drafted Congressional statement of national environmental policy, along with a requirement for official statements of environmental findings in Federal decisions and legislative proposals, will effectively make the quality of the environment *everyone's* responsibility. No agency will then be able to maintain that it has no mandate or no requirement to consider the environmental consequences of its actions.

I am introducing this policy statement as an amendment to S. 1075 at the present time because I want the statement to be available to the Administration prior to the Senate Interior Committee's informational hearings on June 3 and 11 on the Everglades National Park. At the June 3 hearing, I will want to have the judgment of the Administration witnesses on what the effect of this policy statement would have been had it been enacted at the time the Park was created by the Congress.

Mr. President, an environmental policy is a policy for people. Its primary concern is with man and his future. The basic principle of the policy is that we must strive, in all that we do, to achieve a standard of excellence in man's relationship to his physical surroundings.

It is my belief that the amendment I am introducing today will go far towards ensuring that the Federal government both sets and abides by standards of excellence; standards which will ensure that our generation fulfills its responsibilities as trustee of the environment for future generations.

AMENDMENT INTENDED TO BE PROPOSED BY MR. JACKSON TO S. 1075

A BILL TO authorize the Secretary of the Interior to conduct investigations, studies, surveys and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality

On page 1, strike all after the enacting clause and on page 2 strike lines 1 through 6 and insert in lieu thereof the following:

"SHORT TITLE

This Act may be cited as the "National Environmental Policy Act of 1969."

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his natural environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisors.

TITLE I—DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploita-

tion, and new and expanding technological advances on our physical and biological surroundings, and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive and aesthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other unintended, unanticipated, and undesirable consequences;

(4) preserve important historic, cultural and natural aspects of our national heritage, and maintain, wherever possible, diversity and variety;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations and public laws of the United States be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal government—

(1) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decision-making which may have an impact on man's environment;

(2) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations;

(3) include in every recommendation or report on proposals for legislation or other significant Federal actions affecting the quality of the human environment, a finding by the responsible official that—

(i) the environmental impact of the proposed action has been studied and considered;

(ii) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by stated considerations of national policy;

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and

(iv) any irreversible and irretrievable commitments of resources are warranted.

(4) study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water or air;

(5) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(6) review present statutory authority, administrative regulations and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress within one year after the date of enactment such measures as may be necessary to make their authority consistent with this Act;

SEC. 103. The policies and goals set forth in this Act are amendatory and supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

Re-number remaining titles and sections accordingly, and amend the title so as to read:

"To establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisors."

APPENDIX 3

Man and His Environment

America must look to its resources as never before. Population growth and the migration to the city, coupled with enormous technological change, have brought about unbelievably vast increases in consumption of energy fuels, minerals, raw materials, and pressures on available water and land.

There is a continuing movement toward higher living standards, shorter hours of work, availability of more leisure time to use in more ways, and changing space relations on the heels of a major revolution in transportation of goods and people.

These changes, which show no signs of diminishing, are indissolubly linked with natural resources. They affect productivity, income, taxes, the money workers pay for goods and services, their leisure time, and the social and political institutions under which they live.

AFL-CIO President George Meany put the problem in perspective recently. He said: "Ambitious but too often heedless Americans have long since occupied the last frontier, felled the once limitless forests, slain the countless game, tilled the prairies, fouled the lakes and rivers and polluted the air. Now the evils committed in the name of progress must be undone; what remains of nature's beauty must be preserved and the air and the waters purified."

To meet the conservation challenge of the last third of this century requires the understanding and efforts of all Americans. It is a task which has the full and continuing support of the trade union movement.

This support has been spelled out in countless ways before Congress, government agencies, state and local governments. The trade union movement's basic positions are summarized in this publication—a collection of updated and revised articles by George Taylor, an economist in the AFL-CIO Department of Research, that originally appeared in the AFL-CIO American Federationist.

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THE CRISIS IN LAND USE



America contains a fixed amount of land which is being subjected to increasing demands of more and more people. The onrushing technological revolution, increasing living standards, greater consumption, more leisure time and the new age of transportation are placing enormous burdens on the bounty of the land and sharpening competition and controversy over its control and use.

Every day, somewhere in the country one can glimpse bits and pieces of the problem:

- The urban center that rises in aluminum and glass splendor while the displaced poor burrow deeper into the wretchedness of the ghetto.
- The water course running brick-red or chocolate brown with the topsoil washed off a suburban housing development or from farms being mined for money crops.
- The farmland and woodland sliced up by freeways.
- The shopping centers and massive apartment complexes mushrooming on land better suited for city dwellers' recreational needs.
- The desolation and poverty of cutover timber land and the ruin that remains in the wake of strip mining.
- The hideous wasteland of auto junkyards and the unsightly strings of service stations and factories leading into major cities.

In 1900, each American had the equivalent resources of 25 acres of land; by 1950, this was down by one-half to 12.5 acres; in 1966, there were 9.7 acres of land per capita. When the year 2000 rolls around, there will be less than 6 acres of land per capita. And the price of land mounts as intense competition for its uses grows and speculators add to the upward price spiral.

These figures do not reveal that seven of every ten Americans now live in urban areas which occupy only about 1 percent of the continental area of the United States. It is estimated that eight of every ten Americans will be living in metropolitan areas by the end of the century. Most of them will live in three super-metropolitan areas that stretch from Boston to Washington, from Buffalo and Pittsburgh to Milwaukee and from San Francisco to San Diego.

It seems like only yesterday that hunger for land and freedom drew the first colonists here. It seems like only yesterday that the settlement of the continent was accomplished with the ebullient optimism that the bounty of the American earth was boundless and there would be no tomorrow.

From colonial days to the atomic age, control and use of the land were issues that have moulded the

lives of generations of Americans. It has been and continues to be conditioned by the long battle between differing philosophies of property rights and ownership and of the nature of government.

The Republic in its infancy was precariously situated between the Atlantic and the Alleghenies, looking westward across a vast continent that national imperatives demanded be taken and subdued.

Early U.S. land policy laid the basis of survey and settlement in family-sized parcels, characterized, in the words of Daniel Webster, by "... a great subdivision of the soil and a great equality of conditions, the true basis, most certainly, of popular government."

The 1.8 billion acres of land in the public domain were disposed of in the form of grants to aid schools and colleges, for the improvement of stock raising and agriculture, for roads, railroads and canals, for extraction of metals and minerals, for commercial timber and for formation of new states.

By 1900, the axe had cleared more than 300 million acres of virgin forest. The plow had ripped open nearly 300 million acres of virgin grasslands. The rich store of metals and minerals was being exploited to provide the raw material sinews of an urbanizing industrial society. The country was linked together by trans-continental railroads. Agricultural abundance was serving regional, national and world markets. Immigrants from abroad, as well as rural and small town people, were pouring into the cities.

The nation was painfully awakening from its blissful dream of eternal abundance. It found that creation of an industrial giant and an emerging world power had run up some enormous due bills. It began to appraise its land resource with new and uneasy eyes.

Coming of age as a nation carried with it a heavy price. Timber and grasslands had been ruthlessly exploited. Wasteful mining had gutted huge areas. Whole species of wildlife had been wiped out or were in danger of extinction.

America was brought into the modern conservation era by Theodore Roosevelt and Gifford Pinchot at the turn of the century. Looking at the land through the eyes of the new breed of conservationists, the public saw 1,904 billion acres of land within the continental limits of the United States containing a wide range of productive capacity, with climate (including precipitation), topography, soil and river systems the most important controlling factors and producing great differences in its potential.

The public was being taught that the resources on this land, taken in their entirety, were great but not limitless, that many of them were not renewable—such as metals and minerals. The public was being taught that the strength and wellbeing of the country required careful resource preservation, development and management and strong protection against monopolies.

The role of the federal government in resources was being sharply redefined to deal with a problem of national scope and new dimensions. No longer was it to be a passive instrument for giving away the public

domain, but the principal planner, investor, steward, researcher and regulator. The new public policy guideline was that all possible benefits stemming from the use of the land be attained and shared by all the people.

From Teddy Roosevelt's era came the new concept which has been the yardstick of all conservation programs on the land—comprehensive, multipurpose development and use, with the river basin as the operating unit, reaching its fruition in the Tennessee Valley Authority.

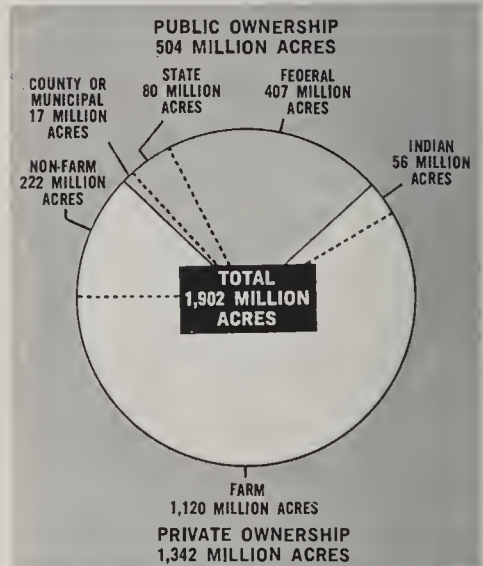
This concept grew out of Pinchot's insight that all separate resources questions were merely parts of "... the one great central problem of the use of the earth for the good of man."

By the time the New Deal came in, the bottom had fallen out of everything for farmer, city dweller and the nation.

Franklin D. Roosevelt loved the land like no other president. He had put 10,000 unemployed men to work on New York's forests while governor of that state. In his inaugural address, he talked of putting a million men to work restoring United States timber and rangelands.

What the New Deal did to restore the people and their land is familiar history—the Civilian Conservation Corps—uniquely FDR's idea; TVA, whose work to conserve the soil, change the farm practices of the

LAND OWNERSHIP
48 Contiguous States*
(1960)



* Excludes Alaska and Hawaii. Federally-owned land in Alaska totals 364 million acres.

region and restore the forests was as important but less known than its dam building and electric power programs.

In 1935, Congress passed the Soil Erosion Act, creating the Soil Conservation Service, with Hugh Bennett its first director. By 1940, there were 314 Soil Conservation Districts on 190 million acres and, by 1960, nearly 3,000 located in every state and operating on 98 percent of total U.S. croplands.

The Taylor Grazing Act in 1934 regulated use of public domain for cattle and sheep, established user fees and created the Grazing Service out of the old General Land Office in the Department of the Interior.

More land and money was made available for protection of fish and wildlife, for national parks, monuments, recreational and primitive areas. The Biological Survey was shifted to the Department of the Interior and became the Fish and Wildlife Service.

The private timber industry began to emphasize modern forestry management during this period, while new lands were added to national forests and programs to aid state and private forestry programs were begun. The Great Plains shelter belt of trees, conceived by Ferdinand Hayden 75 years previously, was instituted by Franklin D. Roosevelt. By 1955, it extended 2,000 miles, from Canada to Texas.

In the cities and towns, land was acquired under federal programs for low-cost public housing. Efforts to establish self-contained "greenbelt" communities were begun on a pilot basis. The goal was to buy up cheap land around cities, tear down city slums, relocate their former inhabitants in well-planned garden towns and establish cultural centers and parks in the city cores. This concept of Rexford Tugwell had a perverted result in the unplanned suburban sprawl of the post-Korean era, but it also was the genesis of President Johnson's demonstration cities program.

By 1960, it was evident that problems of population increase, the growth of great metropolitan areas and the galloping technological revolution no longer could be ignored. The increase of leisure time from shorter hours of work, cheaper travel and higher wages and salaries were bringing the need for more places to play for Americans. There was a mounting drain on non-renewable resources of the land, enormous problems of the future of cities and their ability to function effectively for people and their needs and a slow but pervasive poisoning of the environment by the waste products of industrial technology.

Since the 1930s, there had been little change in the pattern of land uses, but the competition among uses—for highways, suburban and city housing, for commerce and industry, for recreation—was increasing. There was enormous unplanned land waste and there was unconscionable speculation in land.

The New and Fair Deals developed federal mortgage insurance programs for middle income people and for detached suburban homes. It resulted in enormously expanded home ownership and construction, but also caused unplanned urban sprawl—a disar-

ranged flight to the suburbs from city centers and an intensification of local and regional land use problems.

The 1949 Housing Act, which authorized federal aid for urban redevelopment, was intended to retain the vitality of the central city by rebuilding its decaying framework. This program, too, has accentuated the problems of the poor and middle-income families by removing them from condemned housing and giving them the choice of leaving town or finding even worse accommodations.

The land retirement program to reduce production of soil destroying crops was expanded under President Truman and carried on by the Eisenhower Administration.

By the 1960s more than one-third of America's land was still publicly owned, most of it federally, but large areas also were held by the states. Most federal land had never been in private ownership, particularly in the 17 western states and Alaska. On the other hand, the states disposed of more than 65 percent of their land holdings over the previous years.

Land acquisition by public agencies for public uses is on the rise again. This trend will increase, particularly for recreation, with emphasis on nearby facilities to serve the great metropolitan regions. There will be greater use of the power of government for public undertakings—eminent domain, easement, police power and power of the purse.

The Kennedy and Johnson Administrations ushered in a new conservation era. The frontiers are the city. The emphasis is on quality, development and preservation, esthetics, recreation, population, environmental hazards. Here are some of the major problems involving land use and the federal programs enacted to deal with them:

- Cities and towns: Community Facilities Act, the new Department of Housing and Urban Development and the Economic Opportunities Act. The newly enacted Demonstration Cities program to be administered by the Department of Housing and Urban Development establishes the basis for a broad attack on the most crucial metropolitan problems—the slums, housing and recreation needs, urban blight and mass transportation, but lacks adequate financial resources.

- Special regions: Appalachian Regional Development, Area Redevelopment and the Public Works and Economic Development Acts.

- Outdoor recreation: Land and Water Conservation Fund, Open Space and Wilderness Preservation Acts. The largest addition in history to America's national parks system, with several proposed areas awaiting final action.

Also enacted was the Highway Beautification Program and legislation making recreation a part of any decisions on multi-purpose water development projects.

- Fish and wildlife: Congress empowered the Secretary of the Interior to use stronger measures, including land acquisition, to protect species of wildfowl in danger of extinction.

- The federal public domain: The Land Classification and Multiple Use Acts.

- Agriculture: The Conservation Reserve, Rural Areas Redevelopment and Food for Freedom programs.

- The environment: Amendments to the Water Pollution Control Act; the Clean Air Act and amendments; the Solid Wastes Act.

Passing legislation is only the beginning. How it is administered and how adequately it is financed are crucial to its success. It is difficult to assess either the immediate or longer-range value of the manifold federal programs affecting the land which have been established since 1961. There is a mixture, both of concrete achievement and of mere reshuffling of programs. Duplication of functions, programs at cross purposes and tight-fisted budgeting continue to block meaningful progress. There is no integrated land policy.

The City

America's new frontier is the city—with its rapidly growing population and deteriorating pockets of slums and poverty.

The conflict in land uses is a massive roadblock to the orderly development and improvement of the life of people in towns, cities and larger metropolitan areas.

Much land is not being used at all. Much is being misused and not assigned to its best function. Speculative forces freeze land-use patterns into profits instead of the public interest. Urban governments are enclosed in a trap of constantly expanding public service requirements which are outpacing available local revenues. Their planning and zoning agencies are subjected to enormous political and speculative pressures.

Planning for urban land use must change its emphasis. There is a great need for an adequate supply of decent housing for poor and middle-income families. There is also the need for schools and hospitals, clean air and water, transit systems and highways, libraries and museums, parking areas and recreation facilities. Meanwhile, urban sprawl, loss of good land to freeways, vehicular congestion and polluted air and water problems grow more serious. Horse and buggy political institutions as reflected in the maze of local juris-

dictions cannot cope effectively with land-use problems.

The price of land, particularly in urban areas, has been in an upward spiral since the 1930s. In the downtown areas of major cities, land is sold by the square foot and speculators amass fortunes each year from putting together land parcels for luxury office and apartment buildings. And in the suburbs, too, land prices soar. The average price of lots of federally-insured one-family homes skyrocketed 200 percent in 1951-1965. Unless this problem is solved, it will become increasingly expensive and most difficult to rebuild American cities.

How much longer can the great metropolitan areas grow and retain their ability to perform their essential functions? What changes are necessary to enlarge freedom of choice for the poor and for minority groups? What is the effect of this haphazard growth on the quality of living and the creative human spirit?

The AFL-CIO policy resolution on urban America "urges the federal government to undertake a massive effort to rebuild our cities." Labor's program includes several key proposals which involve changes in land use patterns: An increase in low-rent public housing, including equal housing opportunity without regard for race; increased federal capital grants for urban renewal programs and community facilities, with higher matching funds for the largest cities where needs are greatest and increased federal assistance to achieve forward-looking metropolitan area planning.

How effectively large urban areas plan for land use will in large measure determine whether the big cities will continue to sprawl formlessly over the landscape while the cancer of urban blight gnaws away their central cores. Now is the crucial time for the cities to resume their historic roles as seedbeds of creative ideas and fruitful associations of people.

The Farm and the Forest

Since the 1920s, the technological revolution on the farm has made it possible for a super-abundance of

Contrast in land use. Left: Earth is torn open for hard coal. Right: Block-cutting in a national forest reflects sound conservation.



crops to be produced without any significant addition to the nation's cropland area.

This tremendous changeover in farming methods has taken the form of mechanization—replacing millions of draft animals and millions of farm workers through rural electrification, pesticides, fertilizers, better strains of plants and a constant input of new information from governmental and private research.

Between 1940 and 1963, farm production rose 60 percent while the number of farm workers dropped from 11 million to 6.5 million and the farm population fell off precipitously from 30.5 million to 17.1 million. Most of the displaced rural people migrated into the towns and cities.

In 1900, one farm worker produced enough to feed 7 persons. In 1940, he could feed 17. Now his productivity can feed 31.

To raise all a nation requires year in and year out has been a goal sought by peoples since the beginnings of history.

The United States stands between famine and enough to eat in developing nations around the world. The Food for Peace program has expanded to the point where Secretary of Agriculture Orville Freeman has declared 60 million acres of land in the "conservation reserve," eligible for planting in wheat and feed grains for next year's harvest.

The American farmer over the next several years increasingly becomes a key man in the subsistence future of much of the world. The ability to continue to increase his productivity on a limited amount of cropland is of enormous importance.

Yet erosion and faulty drainage remain serious problems on substantial areas of farmland. Too many farmers regard their land as a capital asset and concentrate on raising productivity at the expense of soil conservation.

A keystone of the nation's land policy since 1785, the family-operated farm has been actively and consistently supported by organized labor since the 1870s. The AFL-CIO continues its strong efforts to prevent the weakening of the 160-acre restriction provisions of federal reclamation law in California and Arizona under the less than forceful administration of the Secretary of the Interior and the pressures of the powerful farm corporations of those states.

From 1949 to 1964, there has been a sharp decrease of 1.8 million in the number of farms—from 5.2 million to 3.4 million units. This drop took place almost entirely among the small part-time, technologically inefficient and non-commercial holdings with less than \$2,500 annual sales. Those with more than \$2,500 annual sales remained about the same in number. And farm land values have risen more than 70 percent in the last decade, according to the Department of Agriculture.

Relatively large farms are increasing in number and relatively small farms with marginal income are decreasing. Family farms are getting fewer and larger,

THE USE OF THE NATION'S LAND

| USE OF LAND FOR: | MILLIONS OF ACRES | | |
|------------------------------|-------------------|-------------|-------------|
| | 1960 | 1980 (Est.) | 2000 (Est.) |
| URBAN (including city parks) | 21 | 32 | 45 |
| RECREATION | 44 | 76 | 134 |
| TRANSPORTATION | 26 | 28 | 30 |
| RESERVOIRS | 12 | 15 | 20 |
| CROPLAND (including pasture) | 447 | 443 | 476 |
| FARMLAND (non-producing) | 45 | 45 | 45 |
| GRAZING LAND | 700 | 700 | 700 |
| COMMERCIAL FOREST LAND | 484 | 484 | 484 |
| WILDLIFE REFUGES | 15 | 18 | 20 |
| OTHER LAND | 110 | 63 | -50 |
| TOTAL LAND AREA | 1,904 | 1,904 | 1,904 |

SOURCE: "Resources in America's Future," Lansberg, Fishman and Fisher, 1963.

but there is no strong trend toward their replacement by the huge factories in the field.

The main problem of land use for commercial timber is the expected deficit in forest products by the year 2000 as related to supply. The U.S. Forest Service estimates that requirements for timber products will increase by 80 percent between now and 2000 and, by that time, supply could fall short of this demand by 16 percent or some 13 billion board feet.

Continued population growth could lead to demand far in excess of the Forest Service projections. It proposes more intensive forest management procedures—timber stand improvement, access roads, planting and reseeding, protection against fire, insects and disease and timber salvage. It also urges increased sustained yield production by farmers and miscellaneous smaller private owners who control 60 percent of U.S. commercial forest land.

Forest land provides an invaluable additional function of protecting soil and stabilizing water flow on the headwaters of river basins. It also will increasingly serve as a recreational resource. A substantial amount of marketable timber already has been withdrawn in many areas of the wilderness system.

Until there are strong programs to assist small timber owners to grow and market trees, the heaviest demands will be exerted on the timber companies and the public forests, particularly those in the Far West.

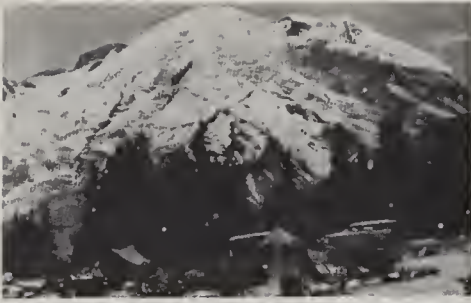
If more land is required for tree raising, there will be an increasing conflict with other land uses, particularly recreation and fish and wildlife.

The Public Domain

There are 180 million acres of residual federal public domain lands in the continental United States and an additional 270 million acres in Alaska.

These lands are administered by the Bureau of Land Management, within the Department of the Interior, under a maze of laws which date back to the 1860s and hamper modern multiple-use management.

The present and future value of public domain



Camping at Mt. Rainier, a memorable experience for many.

lands is enormous. Revenues from minerals leasing, sale of land and timber and grazing fees total \$3.5 billion since 1875, of which \$1.3 billion has been received between 1961-1965. The public lands not only are important for conserving land and water, but can be managed to help finance other needed federal resources programs.

The Classification and Multiple Use Act as a permanent program has resulted in decisions as to what land should be retained for the American people for economic and recreational benefits and what land should be reclassified for sale or exchange with other federal, state and local agencies.

The old Homestead, Desert Land and Mining Acts of 1872 no longer serves a modern purpose. No public domain land is left for agricultural settlement. The Mining Act simply keeps the Bureau of Land Management in constant administrative and judicial snarls. The Public Land Law Review Commission created by Congress in 1964 is to make recommendations on existing laws and policies by December 31, 1968.

The remaining 150 million acres of land intended for retention as a national heritage should be guarded well. It contains \$300 billion worth of oil shale rock, hundreds of millions of dollars worth of coal, natural gas, phosphates, uranium, timber and other resources. It also protects vital river headwaters.

Land for Mining

While mining does not account for a large proportion of total land use, placer, strip, auger and open pit operations in the United States have ruined or seriously damaged about 1.75 million acres of once beautiful land, of which 900,000 acres are in the Appalachian region.

Timber interests already had done immense damage to the land. The open pit coal mines of recent years have done an even more brutal job. They have blighted surrounding areas. Sulphur in the soil prevents anything from growing. Acid washes into the streams, killing all marine life. Landslides occur, tons of silt are washed into streams.

TVA has developed economically feasible techniques of reclamation of stripped land and at last is requiring such restoration as part of its new coal

supply contracts. Kentucky and other states have passed laws requiring mining operators to reclaim the damaged areas. The recent Interior Department report on strip mining recommends that all affected states enact strong laws requiring mine operators to restore the land. Cooperative state-federal programs are proposed to correct past damage and develop recreational and other uses in the recovered areas.

Land for Recreation

In 1960, recreation not only gave pleasure to millions of Americans who made 4.4 billion visits to all kinds of places, but generated a \$20 billion demand for associated goods and services.

Demand for recreation land and the recreation business are expected to triple by the end of the century—the former from 44 million to 134 million acres, the latter from \$20 billion to more than \$60 billion.

The two principal problems to be solved are competition in land uses, particularly in urban areas and rising land costs due in large part to speculation.

If the necessary land is found for the needs of 2000, it will leave a 50 million acre deficit nationally. This means that other lands—farm, timber, grazing—would yield to recreational uses if these were considered of higher national priority.

The slowness of federal and state governments to acquire recreational land makes possible the tremendous price escalations. The \$169 million provided by Congress for the Land and Water Conservation Fund is already short \$87 million in 18 areas. In 22 others, the Bureau of Outdoor Recreation does not know if the properties can be purchased with available funds.

The AFL-CIO actively supported legislation recently signed into law by President Johnson establishing a 5-year period, ending in fiscal 1973, during which royalties from continental shelf oil and gas leasing will be placed into the Land and Water Conservation Fund in amounts necessary for the fund to yield \$200 million annually for acquisition of recreational lands.

Proposals to get around land price hikes have included giving authority to river basin commissions to issue bonds for land purchases; stronger land zoning, both urban and rural; private foundations holding land by option until federal money becomes available; and special taxes for recreational land.

Workers have a tremendous stake in the use of the nation's land. Workers, in common with all other citizens, have both needs and responsibilities. The needs are for land which will be developed, managed and conserved to yield them the fundamentals of a good life in all of its aspects and to be handed to the next generation in just a little better shape. The responsibilities are those of citizens who will consistently work to help reach those goals.

It is necessary to understand the American condition no longer permits the luxury of doing with land just exactly what any person wills, regardless of how it affects others.

The Fight for Clean Air

When the right circumstances conspire, air pollution can turn into a deadly mass killer.

In 1930, there were 60 people killed when a deadly smog settled in over the industrial Meuse Valley in Belgium.

In 1948, the steel and chemical town of Donora, Pennsylvania, was visited by a fog and a temperature inversion which left 20 dead.

In 1950, a tank of poisonous hydrogen sulfide was accidentally released to the atmosphere from an oil refinery in Mexico City. The toll: 22 dead and 320 hospitalized.

In 1952, a "black fog" hung like a shroud over London for four days and took 4,000 lives.

Ten years later, both London and New York City suffered through serious smogs.

And in late 1966—as if to publicize the National Conference on Air Pollution about to open in the nation's capital—the elements conspired to form a temperature inversion over New York City. Preliminary estimates put the number of deaths at 80, a toll expected to rise when the death rate is checked against mortality tables over a longer period.

These dramatic instances of smog disasters serve

November 1966: Photo taken at 8:30 a.m. shows smog choking New York City as massive air inversion hit mid-Atlantic coast.



as periodic reminders that the city air we breathe is unclean. Air pollution is taking its toll of people's health every day in every city in the United States. It is a problem which most people are aware of by now and to which they seem to be adapting.

Unfortunately, it may take a major air pollution disaster to crystallize support for strong regulatory action.

President Johnson attempted to point up the critical urgency of the problem when he sent a special message on air pollution to Congress in 1967. The President declared:

"We are not even controlling today's level of pollution. Ten years from now, when industrial production and waste disposal have increased and the number of automobiles on our streets and highways exceeds 110 million, we shall have lost the battle for clean air—unless we strengthen our regulatory and research efforts now."

The superficial aspects of air pollution are widely evident. People are aware of the offensive smell, the dirt deposited on clothing and curtains, the corrosion of metal and stone, the lack of visibility on roads and the damage to bathing areas.

But the dangers from air pollution are far broader and more insidious. The longterm effects of air pollution begin to work on the human organs from the day of birth. Increasing numbers of Americans are becoming afflicted with respiratory conditions—everything from the common cold to lung cancer—which are aggravated by breathing polluted air.

One of the fastest growing causes of death in the United States is emphysema, a progressive breakdown of air sacs in the lungs caused by chronic infection of the bronchial tubes. In 1962, over 12,000 persons died of emphysema. Each month, 1,000 or more workers are forced to retire prematurely because of this disease.

Other diseases of the lungs and air passages which are worsened by breathing polluted air include bronchial asthma, chronic restrictive ventilatory disease and even the common cold.

The death rate from lung cancer has been rising. Research points to a variety of causes. However, the incidence of cancer is twice as high in urban as in rural areas and appears to be related to population density as well. This is the basis for speculation that air pollution may be a contributing cause of lung cancer.

The first public concern over pollution involved the smoke nuisance in the 1940s. Public indignation focused on offenders responsible for dirtying the community. Anti-smoke ordinances were adopted in such large cities as St. Louis and Pittsburgh. The change-over from coal-burning to diesel locomotives and the increasing use of natural gas for home and office space heating helped to reduce much of the smoke nuisance in many urban areas.

Now the concern and danger is only partially with smoke. The newer industrial processes and many of the older ones are expelling a wide range of gases and minute particles. These pollutants often overload the ability of the atmosphere to disperse them and they produce effects which are sometimes unpleasant, sometimes unhealthy and, on occasion, disastrous.

The basic causes of the air pollution problem are well-known. They involve an increasing population which is becoming more and more concentrated in urban areas. The U.S. population will grow to an estimated 225 to 250 million by 1980. About 200 million people will be living in cities.

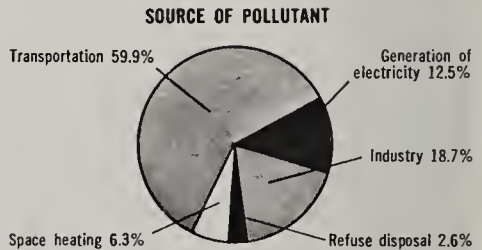
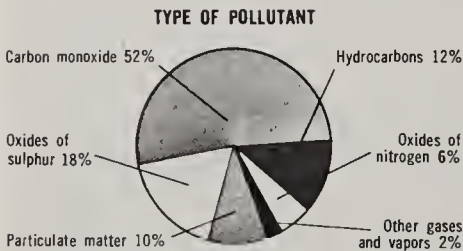
These urban area people will be driving more cars, consuming more electric power, buying more manufactured goods, creating more wastes. The overall result will be an ever-rising amount of air pollution.

The main trends are apparent.

In 1960, 60 million automobiles in the United States burned 40 million gallons of gasoline. By 1980, over 110 million automobiles are expected to be on the road, almost doubling the gasoline being burned and emitting most of the pollutants into urban areas.

More solid wastes are dumped each year, most of it combustible. In 1960, the per capita amount of combustible waste was 1,100 pounds. Even if the per

AIR POLLUTION IN THE UNITED STATES (125 million tons per year)



Source: "Waste Management and Control". A Report to the Federal Council for Science and Technology by the Committee on Pollution, National Academy of Sciences. National Research Council, 1966.

capita figure does not increase, which is unlikely, this nation will be producing 175 million tons of combustible waste by the year 2000, enough to bury a city the size of Pittsburgh or Boston or Washington, D. C. under a 30-foot mountain of trash.

By 1980, use of electric power may have increased threefold over present demand. Most of it will be generated by fossil fuels—coal and oil—although nuclear energy will be rapidly moving to the fore in the next decade. As of 1966, generation of electricity is one of the major sources of air pollution.

The growth of industrial production—iron and steel, non-ferrous metals, chemicals, petroleum, paper and allied products—is expected to double or triple over the next decade or so. These are the major industries which share responsibility for atmospheric pollution.

There is also the clear danger created by a constantly changing technology. By the end of the century, the annual expenditure by industry and government in industrial-oriented research may reach as high as \$70-\$80 billion. Increased research and development already has contributed to the introduction of dozens of new materials, many releasing airborne contamination to the environment, the effects of which are yet unknown.

The principal pollutants released to the air total about 125 million tons per year at present, according to a 1966 report by the National Academy of Sciences.

Automobiles, trucks and buses powered by internal combustion engines are the major emitters of carbon monoxide, oxides of nitrogen and hydrocarbons. Generation of electric power by burning coal and oil produce most of the oxides of sulfur. Industrial production is the chief contributor to the atmosphere of particulate matter and miscellaneous pollutants.

The data clearly show that moving sources of pollution spew six of every ten tons of pollutants into the air. Thus the nation's motor vehicles constitute the number one air pollution problem.

Industry, including electric power generation, is the next greatest offender, contributing nearly four of every ten tons of polluting materials emitted.

People do not die immediately from foul air, even though it may affect their health adversely when pollution of the air they breathe is chronic, which is true in nearly every large city.

But sometimes a smog disaster strikes. Such disasters occur when there is a prolonged temperature inversion and takes place in localities where there is a great volume of toxic materials being emitted into the atmosphere from industrial emitters, automobiles and homes and offices burning soft coal.

A "temperature inversion" is a meteorological situation that occurs when the normally cool upper layers of air become warmer than ground air. In a situation when the air mass is not moving on the back of a prevailing wind, or rain comes to the rescue, the cool upper air stays put and prevents the dirty air at ground level from circulating up and out. Los Angeles is the prime example of a metropolis with

CITIES WITH MOST SEVERE AIR POLLUTION PROBLEMS — 1967

Five Areas Having Most Severe Problems

New York
Chicago
Philadelphia
Los Angeles-Long Beach
Cleveland

Five Areas Ranking Second in Severity

Pittsburgh
Boston
Newark
Detroit
St. Louis

Ten Areas Ranking Third in Severity

Gary-Hammond-East Chicago
Akron
Baltimore
Indianapolis
Wilmington
Louisville
Jersey City
Washington
Cincinnati
Milwaukee

Source: The National Center for Air Pollution Control,
Public Health Service, Department of Health,
Education, and Welfare.

a chronic inversion situation. But they can take place anywhere. When they happen suddenly and remain for several days where there is a great deal of emission of pollutants, people who are well get sick, the sick get sicker and some of the sick and some of the older people die.

The burden of principal pollutants is expected to double by the year 2000. Over the great metropolitan areas of the West Coast, the Great Lakes and other regions, inversions are expected to become more and more lethal, together with the kind of "ordinary" air humans breathe between inversions, which merely takes longer to infect individuals with chronic respiratory diseases and possibly lung cancer, but produces few headlines.

In the long-range view of the situation, the steady increase in the release of pollutants to the atmosphere, in addition to what is already there from natural and man-made causes, can work what may very well become a permanent change of the world's climatic

cycles. It is a well-known phenomenon that temperatures in large metropolitan areas are consistently warmer than in the countryside and fogs are more frequent. This is an example of local modification.

The bulk of the air resource is in a relatively shallow envelope six miles in depth (the troposphere). There are global, regional and local air movements within the troposphere which make up nature's ventilation system, modified by topography, climate and latitude.

If the mass of air pollutants continues to build up, the global capacity of the wind systems to disperse pollutants may be seriously impaired.

Thus modern man in the United States and other industrialized nations has created a menace. It lurks in the very air he breathes and takes an increasing toll in lives, health and the economy. It is seriously disturbing the delicate balance that has existed in the environment, of which man is becoming a ruthlessly disrupting factor. He worships at the shrine of personal cleanliness, creature comforts and new techniques while surrounding himself with an environment of ugliness, filth and poison.

What has been done in recent years to clean up America's polluted air?

The federal government did not move into the picture until 1955, when legislation was enacted creating a federal program.

The Public Health Service of the U.S. Department of Health, Education, and Welfare was authorized to conduct research on the problem and provide technical assistance to state and local governments.

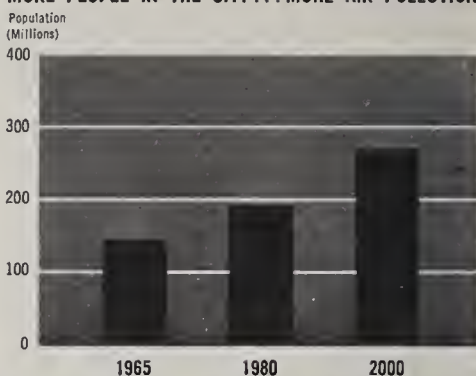
The 1960 amendments to the basic federal act provided for a special study of motor vehicle pollution. The federal program under this law brought more scientific knowledge to bear on causes and effects. The public attention was becoming more aware that polluted air was a national problem, was damaging to the public health and welfare, and that control of many of the larger sources of poison was feasible.

Although knowledge about the causes, effects, scope and control techniques was steadily advancing, there was little done by local, state or federal levels of government to clean up the air. The federal program was research-oriented. Outside of Los Angeles and the state of California, there were few local or state programs. Those in existence were basically ineffective.

The federal Clean Air Act of 1963, however, broadened the scope of the federal program. It authorized federal grants-in-aid directly to state and local air pollution control agencies to establish or improve their programs and empowered the federal government to take necessary action to abate interstate air pollution situations.

The Clean Air Act also expanded research, technical assistance and training activities of the U.S. Public Health Service. It directed the Service to do research and development on motor vehicle and sulfur oxide pollution from coal and oil burning in power generation and other industries, and to develop

MORE PEOPLE IN THE CITY... MORE AIR POLLUTION



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

criteria on air pollution effects on human health and property.

The 1965 amendments to the Clean Air Act authorized the Secretary of HEW to establish standards to control emissions into the air from new motor vehicles and to investigate and develop methods of controlling new air pollution problems.

In 1966, further amendments enlarged the grants-in-aid program to states and localities to assist in maintaining control programs. The Congress also established a three-year authorization of \$46 million for fiscal 1967 and \$66 million and \$74 million for fiscal years 1968 and 1969, respectively.

Between 1955-63, federal funds expended on air pollution control programs had risen slowly from \$2 million to about \$11 million a year. But in the 1963-66 period, the total rose to \$35 million a year.

What Have the States Done?

Sixteen years ago, the first state law dealing with air pollution was passed. Until 1963, when the Clean Air Act was passed, only 13 more states had enacted such laws. Since then, 32 more states have acted, so there are now 46 out of the 50 states with anti-air pollution statutes on the books.

In 1961, the budgets for state air pollution control programs totaled only \$2 million, of which California alone accounted for 57 percent.

By 1968, 39 states were budgeting an aggregate \$14.5 million, \$7.5 million of which was in the form of federal grants-in-aid, according to the Dept. of HEW.

While there was an improvement of state resources applied to the problem, the situation is still far from satisfactory in this respect. Moreover, there is wide variation among the states in the kind of agency assigned program responsibility, in standards and regulations, in enforcement and compliance procedures

and punishment of wilful offenders by fines, jail or both.

Although the Clean Air Act encouraged the formation of interstate compacts to aid in the control of air pollution, very few states have acted. New York and New Jersey were inspired to act because of the serious smog over the New York City metropolitan area. Illinois and Indiana are negotiating a compact and so are West Virginia and Ohio.

The New York-New Jersey compact, which is furthest along, seeks legislative authority to set air quality standards and to make and enforce regulations. An innovation in this proposed compact would provide for both local and federal representation.

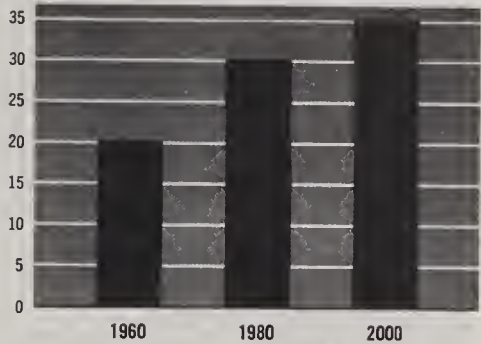
What Have the Cities Done?

Since the late 1800s, there have been many local smoke abatement ordinances passed by hundreds of communities, dealing with this aspect of air pollution as a nuisance. Beginning with Los Angeles, recent years have seen a greater community effort to attack poisoned air, not merely smoke.

By late 1968, according to the U.S. Public Health Service, there were about 133 city, county and multi-

MORE STEAM POWER GENERATION... MORE AIR POLLUTION

Levels of Sulphur Dioxide
(Millions of Tons)



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

jurisdictional air pollution regulatory agencies in operation and located in 35 states serving more than 63 million people.

The total 1968 budget for all these local administrative areas was about \$26.5 million, of which \$11.0 million was in federal grants-in-aid. This represented a sizable rise over the \$2.6 million budgeted in 1952.

The largest single local agency budget was that of Los Angeles County—\$3.7 million. Control agencies in California made up 38 percent of total 1965 local air pollution control budgets in the nation. The seven largest agencies made up 58 percent of the total local air pollution control budget for the nation.

While the towns and cities are now doing more about the problem than a decade ago, much of the larger urban areas still lack programs. There are manpower problems, both in funds available to hire personnel at adequate salaries and trained manpower. The U.S. Public Health Service estimates that at least a fourfold expansion of programs is required to do a reasonably good job in terms of money and staff.

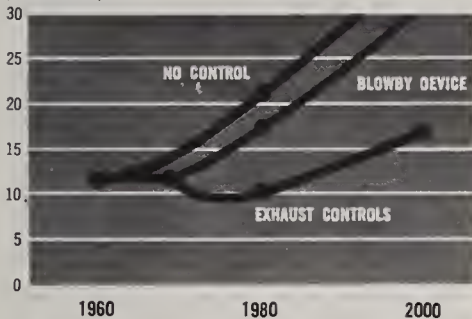
Moreover, there is a lack of definition of the full range of pollutants to be monitored and controlled. There is less than adequate support by local officials for a sustained all-out air cleanup effort. As with the states, regulations are too permissive, enforcement is weak or lacking and long-range planning is neglected.

The Air Quality Act of 1967 took the nation another step toward cleaning up its air. It directed the Department of HEW to map out the broad atmospheric areas of the United States and to designate air quality control regions crossing state lines and based on meteorological, technical, social and political factors.

The newly-established National Center for Air Pollution Control administers the federal program and is directed by the 1967 Act to develop and publish air quality criteria, which defines the extent to which dirty air is harmful to people and living things and damaging to property. The National Center is also

MORE AUTOS MEAN MORE POLLUTION DESPITE CONTROLS

Levels of Hydrocarbons
(Millions of Tons)



Levels of Carbon Monoxide
(Millions of Tons)



Source: "Today and Tomorrow in Air Pollution," 1966 publication of Public Health Service, U.S. Department of Health, Education, and Welfare.

directed to develop information on control and prevention of air pollution.

With federal criteria, the states are expected to develop air quality standards and place them into effect in the air quality control regions, their plans being subject to review by the Secretary of HEW before approval, and before federal grants-in-aid can be made to state and local control agencies and to regional air quality programs. If the state fails to do an adequate job, the Secretary of HEW can institute abatement action. The Act also allows federal intervention to abate crisis situations which threaten.

In addition, the 1967 Air Quality Act expends federal programs regulating motor vehicle pollution by providing federal grants to states to develop adequate inspection programs, and provides for registration of fuel additives and intensified efforts to control air pollution from federal facilities.

The Act enables setting up various advisory groups, including a 15-member Presidential Air Quality Advisory Board, and special studies on jet aircraft emissions, the need for national emission standards and manpower and training needs.

The National Center for Air Pollution Control has designated atmospheric areas of the 48 continental states—two on the Pacific Coast, the Rocky Mountains, Great Plains, Great Lakes-Northwest, Mid Atlantic Coast, Appalachian and South Florida areas. It is now in the process of defining air quality control regions.

Air quality criteria for particular matter and sulfur oxides are supposed to be ready for publication this year, that for carbon monoxide by late 1968, photochemical oxidants and atmospheric fluorides in 1969, with preliminary work under way on other classes of pollutants. New and stiffer emission standards on motor vehicles were published by HEW earlier this year for 1970 models.

By these means, it is possible to move in with federal, state and local programs to control poisoned air emitted from stationary sources, factories, power stations, oil refineries and the like.

One of the large national problems posed by emissions from motor vehicles is that while it is possible to reduce pollution, the continually increasing numbers of cars will result in the total amount of pollutants increasing in direct ratio.

Unfortunately, Congress did not see fit to retain the provision in the 1967 Act calling for a research program in alternative low-pollution vehicle systems, such as the electric-powered car or an improved steam driven vehicle or a gas turbine engine.

The problem with respect to electric cars is to find an energy source, either a battery or fuel cell which operates on chemicals, which will enable faster pickup, higher speeds and longer periods between refueling.

The problem with respect to steam driven vehicles—slow warm-up time, high water consumption and explosion hazards—can be solved but will require additional engineering refinements and reduction of high costs per model.

The use of gas turbines must first overcome high manufacturing costs and high fuel consumption.

While industry is grudgingly accepting the disagreeable inevitability that there will be some kind of control over air pollution, it wants a major voice in setting the terms.

Industry wants federal activities restricted to research and development, and it seeks federal tax writeoffs as well as state and local financial incentives for air pollution control equipment.


Recently, the chairman of the board of Humble Oil Refining Company said to a meeting in Houston, Texas, that if industry did not voluntarily clean up its own mess "... in the near future our actions in this area will be spelled out by congressional legislation."

The AFL-CIO, in its 1967 policy statement on air pollution, found that while the 1967 Act was a slight gain in the fight for clean air, the weaknesses of activities at all levels of government "must be rapidly corrected if the new and expanded programs are to have any real effect."

Organized labor urged these amendments to the Air Quality Act: (1) Establish national emission standards governing the release of pollutants into the atmosphere from stationary sources. (2) Strengthen and streamline federal enforcement procedures. (3) Federal research to assist in developing efficient electric powered motor vehicles as an aid in reducing the largest and most rapidly growing source of pollution; (4) A thorough evaluation of the effects of the expansion of nuclear power on air and water pollution is needed.

The policy statement also urged participation of all AFL-CIO affiliates in helping establish strong state and local air quality programs and opposition to any tax incentives to industry to help pay for costs of controlling air pollution in its own operations.

The nation is only in the beginning of a long journey toward cleaning up its dirty air. The fight will be lost or won over the decision made by citizens in the big cities, the towns and the villages: Have the people had enough foul air and are they ready to demand a tough and sweeping program to clean it up?



America's Water Crisis

The continental United States is favored with a general abundance of rainfall and yet suffers from a growing crisis in water. Unless the nation moves soon towards rational planning in the conservation and use of its water resources and acts to end man-made pollution, the economic and social consequences will be enormous. Regions of the nation now enjoying rapid growth will find they have built on sand; as they outrun usable water supplies, economic decline will set in. And social and political problems will follow.

Many people now easily perceive the problem. The Middle Atlantic and New England states have been hit by a long cycle of low rainfall. Short water supplies are forecast in the areas of the Upper Missouri, the western Great Lakes, the Upper Arkansas-Red River, the Upper Rio Grande and Pecos, the Great Basin, the Colorado River Basin and western Gulf region. Severe shortages lie ahead in the Pacific Southwest.

In recent years, the easy assurance that the nation had plenty of water has been dealt a fatal blow by the postwar population upsurge, the concentration of more and more people in supercities, the expanding uses of water, the proliferation of human and industrial wastes reducing the available clean supplies and by the surging demand for outdoor water-based recreation opportunities.

Grave concern was expressed in the 1961 summary report of the Senate Select Committee on Natural Water Resources:

"... the situation with respect to the nation's water resources indicates that serious problems lie ahead. Adequate measures must be adopted to deal with situations which can now be foreseen to make sure that shortages of water will not control the future destiny of the nation."

In comparison with most other nations, the United States is blessed by a general abundance of water. An annual average of about 30 inches of precipitation—in the form of rain and snow—falls on the surface of the 48 continental states. This produces a runoff of about 4.4 trillion gallons a day.

With this kind of endowment, why is there a growing water problem—local, regional and national?

In the first place, nature takes most of the 4.4 trillion gallons of precipitation by processes outside human control. After evaporation from water and land surfaces and withdrawals by vegetation and for human use have taken their toll, there remain only about 8 inches of the 30 inches of precipitation, or a runoff of 1.1 trillion gallons per day of water that can be considered as potentially usable. It is a fixed amount.

But even the 1.1 trillion gallons per day is not available for human uses in even proportion across the country. The basic reasons for this are:

1. Large variations among regions in the amount of annual precipitation.
2. Natural and man-made pollution.
3. Failure to provide facilities for development and conservation of water for present and future demands.

After all these factors have been assessed, the U. S. does not have an available supply of more than a trillion gallons of water a day, but only 515 billion gallons a day.

In 1900, Americans used 8 percent of this supply. By 1960, they were using 60 percent, and by 1965, nearly 70 percent. Over this period, daily per capita use increased at twice the rate of population growth.

Sometime in the late 1970s, there will be in excess of 225 million Americans, of whom 165 million



will be depending on surface water supplies. More than 75 percent will be living in vast supercities occupying hardly more than 1 percent of the nation's total land area. At least 200 million persons will be served by sewage systems. Up to 70 percent will probably be located in the 31 states east of the Mississippi River. Hardly more than 5 percent of the population will be supported by direct agricultural production. Longer range water requirement forecasts indicate a possible withdrawal of nearly 900 billion gallons a day by the year 2000.

According to many water experts, the nation's water requirements will climb steeply beyond the 515 billion gallons now available. Recent estimates suggest that by the next decade water demand may aggregate well over 600 billion gallons per day.

To bring the problem into common focus: Presently a one-family house with four people living in it uses 550 gallons of water a day; a large apartment complex with 300 apartments housing 1,000 people requires 50,000 gallons a day; a 20-story office building with 200 persons a floor will use 120,000 gallons of water daily and a 400-bed hospital about 100,000 gallons a day.

To produce a ton of paper out of pulpwood, 38,000 to 184,000 gallons of water are required; a ton of processed aluminum needs 32,000 gallons; a ton of synthetic rubber, 660,000 gallons; to refine one gallon of crude oil, 44 gallons of water are needed. Each automobile coming off the assembly line has been the product of a process using 16,000 gallons of water and each new truck or bus, 20,000 gallons.

Whereas in 1954 nearly 60 percent of total U.S. water requirements were for irrigation, it is indicated that by 1980 this use will require less than one-third

of total national requirements. Nearly two-thirds of national needs will fall in the area of industrial uses (steam power cooling and manufacturing).

It is perfectly clear that the increasing population, the jamming of people into a few great metropolitan areas, the expansion of water use stimulated by revolutionary changes in technology all combine to exert a major drain on water supply.

The water supply itself is governed by the impersonal operations of the hydrologic cycle. Simply stated, the hydrologic cycle is the eternal circulation of water from the mother reservoir, the ocean, to the atmosphere, then over land and back again to the ocean through either surface or subsurface flows. All water resources projects affect the water cycle in some fashion. Thus a comprehensive rather than single-purpose approach to such planning is indispensable.

The essential of a dependable water supply is that it is available when needed, in the amount needed and of a quality which permits the widest possible range of human uses.

The first difficulty encountered is variability. National averages are misleading, as water short areas can grimly testify.

While the U.S. as a whole has a yearly average of 30 inches of precipitation, there are large deviations between geographic regions.

Annual precipitation rates are equal to or greater than the national average from the Mississippi Valley eastward, in the Rockies, Sierra and Cascade mountain ranges and along the Pacific Coast from Washington to south-central California.

From the Great Plains to the eastern slopes of the Rockies, precipitation becomes progressively less than

the national average. The regions of the Great Basin between the Rockies and the Sierras and the southern California coast range from arid to desert.

Moreover, in no region does rain and snow fall in symmetrical patterns over the days of the year. There are rainy seasons and dry seasons. There are climatic cycles, such as the drought that has plagued the eastern United States for the past several years. In reverse, there are periods of extraordinary precipitation which result in destructive floods.

Another ominous dimension has been added to the equation by the increase in man-made pollution of America's waters. Plenty of water flowing in a stream means nothing if human and industrial waste and silt befoul it and reduce the artery's function to carrying filth and contamination downstream to the next community. Pollution threatens all other uses. Every major river basin and now even the Great Lakes are heavily polluted. Not one supply has been cleaned up.

In order to develop and obtain optimum use of the nation's 1.1 trillion gallons a day water potential, it is necessary to see it as a single problem.

The time is far overdue to employ the funds, the lessons learned and the fruits of all possible research on a nationwide scale to improve use of water on the land, to control it in streams, rivers and lakes and drastically to enhance its quality.

To improve the use of water on the land involves not only decisions by various levels of government but, more importantly, by many millions of individual landowners both on the farm and in towns and cities.

To control streamflow involves both surface and groundwater. The latter cannot be looked at entirely as a new source of supply, even though the U.S. underground water resource has not been adequately determined. It is an element of the same supply and its discharges support the dry season flows of most streams and rivers.

A controlled stream is one in which the annual runoff has been equalized by means of catching water in systems of large main stem and smaller headwater reservoirs when rainfall and snow melt are heaviest. This kind of system aids in reduction of flood damage downstream.

When the dry season, or a longer dry cycle occurs, stored water is released from the reservoirs behind the dams. The waters are used downstream for many purposes: navigation, irrigation, municipal and industrial water supply, generation of hydroelectric power and dilution of human and industrial wastes. Reservoirs are increasingly operated for recreation and fostering fish and wildlife resources.

The same principle of refilling and drawing down underground reservoirs should prevail as that governing operation of surface storage. Programs are needed to achieve their artificial recharging in order to prevent the kind of depletion of underground water tables that has taken place in the Plains States, in Arizona and in California.



The Columbia River public power complex serves as a model in the multiple-use of valuable water resources.

The importance of groundwater, particularly in areas of considerable precipitation, is that it can often be used as an alternative to development of surface water storage. Often planners are faced with the difficulty and high cost of obtaining surface reservoir lands in heavily populated areas because of competing land uses.

There are water surpluses in some regions and deficits in others. Transfers from surplus to deficit regions have been undertaken on a considerable scale, particularly in the western states.

In 1965, the Interior Department proposed a \$3 billion engineering plan involving the diversion of surplus water from the Columbia Basin to the Lower Colorado River, and reducing the call of California on Colorado River waters by transporting water from the high precipitation north to the arid and heavily populated south. This proposal immediately encountered a storm of opposition from the Pacific Northwest and from California.

On an even more gargantuan scale is the so-called Western Water Development Plan, originally a concept of a private engineering firm. This international, interregional undertaking would cost in the neighborhood of \$80-\$100 billion. It would divert Canadian rivers now emptying into the Pacific and Arctic Oceans so that a major portion of the water would flow into the Far West, thence into Mexico. A system of canals and lifts would pour additional Canadian surplus waters into the western Great Lakes.

Among the uses of water made available by a controlled river system are those which require no withdrawal or depletion. These include out of door recreation, commercial and sport fishing, disposal of human and industrial wastes within the normal capacity of the streams and creation and maintenance of navigation channels.

Water for waste disposal is among the most ancient of its uses by people. Under present day conditions, the volume of water is not reduced by the dumping of wastes, by siltation, acid drainage or raising the temperature by steam power generation. What is reduced, and with increasingly serious results, is the

quality of the water. On any major stream, water must be used again and again. That is why control of water quality must proceed hand in hand with securing and controlling an optimum supply.

In addition to "in-place," or non-consuming water uses, there are "withdrawal" uses for domestic, municipal and industrial purposes, for steam power generation and for irrigation.

These are the drafts upon water which create shortages as they grow and are the first to be affected by scarcities. They "consume" part of the withdrawn water; that is, some of it evaporates and some is used by soil crops and other vegetational cover. Some percolates down into the underground and is received by the river somewhere downstream at a later time. Thus direct returns to the river are reduced by the amount of such consumption.

At present, the highest rate of "consumptive use" among any of these withdrawal functions is for irrigation. In arid areas of the West, this approaches 60 to 80 percent of the withdrawn water and more than 40 percent of total national "consumptive use."

Three major river basins illustrate the particular problems faced in developing full and comprehensive use of water resources.

In the 300,000-square mile area of the northeastern United States only recently affected by a long drought, normal annual precipitation is considerably in excess of the national average. The runoff from its streams and rivers is about 300 billion gallons a day, an amount not much less than the present aggregate U.S. daily water use.

Why was there a water crisis in the Northeast? Why can it happen again?

There are two major reasons: A historical failure to provide adequate storage facilities to serve the rapidly-increasing urban population and an almost unchecked growth of pollution.

In New England, the Merrimac, Connecticut and other rivers have been reduced basically to two uses: for human consumption and as canals to carry human

and industrial wastes downstreams. Failure to provide adequate storage forced one New England town after another to ration water during droughts or to suffer heavy flood damage during heavy rains.

New York City uses 1 billion gallons of water a day. It obtains most of its supply from reservoirs in the Catskill Mountains and from its allocation of Delaware River water.

In 1965, New York's share came close to the total runoff of the entire Delaware River system, which also had to meet the requirements of heavily populated New Jersey and Pennsylvania areas.

While the inefficiencies and wastes of New York City's water system were being argued, and the Department of Interior's task force was attempting to assist the region on an emergency basis, the Hudson River was carrying almost three times the water needs of the New York City metropolitan area right past its doorstep. But this flow was too heavily polluted to be used. Moreover, the abundant groundwater resources in adjacent New Jersey have been mapped out and developed in only a haphazard fashion.

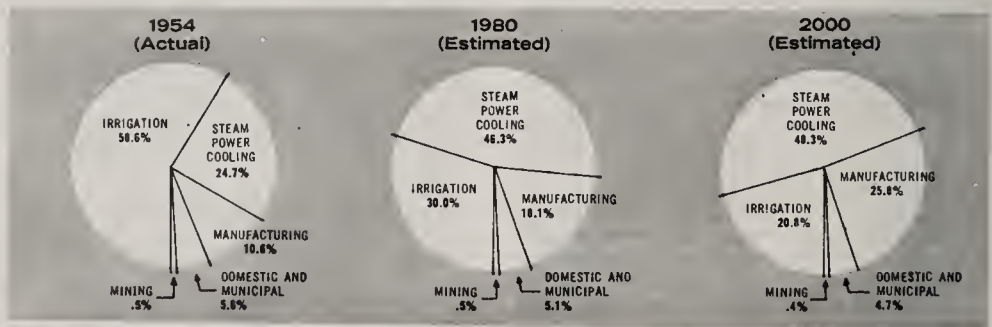
This situation is similar to what is found on the Merrimac, Connecticut and other New England rivers. It can very well happen on the Potomac River if another abnormal drought cycle should come and the population of Washington's metropolitan area continues its rapid growth. At best, it will not improve for many years.

The second case is the Lower Colorado River, serving the Pacific Southwest. It drains some of the most arid land in the nation, which nevertheless is its fastest growing region. The 16.5 million acre-feet of available water was ample for the 1940 population of 5 million people, but by 1960 there were 11 million people living there. The Lower Colorado system now falls short of meeting present annual requirements by 1.3 million acre-feet.

By the end of the century, the region's water needs are expected to exceed the full carrying capacity of the Lower Colorado by an additional 7 million acre-

TRENDS IN THE USE OF WATER RESOURCES

(Percent of Total Requirements)



Source: Report of Senate Select Committee on National Water Resources, 1961.

feet needed to meet the requirements of the 30 million people expected to be located in the Pacific Southwest by the year 2000. For the first time in American history, population pressures have exceeded the water resource potential of an entire major region.

The Senate and House in the 90th Congress reached a compromise agreement on legislation authorizing the Central Arizona Project. This legislation provides for the physical works to convey Arizona's allotment of water from the Colorado River to Arizona, accedes to conservationists' opposition to any dams in the Grand Canyon area and to the Pacific Northwest states by prohibiting any government studies relating to diversion of water from other river systems to the Pacific Southwest for 10 years.

This only postpones final resolution of the issue arising out of sharing western water supplies. The Senate and the House agreed to create a 7-man National Water Commission. If this Commission is worth its salt it will have to make controversial recommendations regarding the nation's water supply and use situation, including supply, priority of uses, geographical apportionment and quality. This includes interregional diversion of water from surplus areas to those of short supply.

The long-term economic future of the fast-growing Pacific Southwest region rests on acquisition of water supplies beyond the carrying capacity of the Colorado River system. The economic feasibility of large-scale desalination plants on the Pacific Coast has now been thrown into question by escalating costs. Future importation of water from elsewhere therefore cannot be ignored.

The Tennessee Valley is the third illustration. Since 1933, TVA has built main stem and major tributary dams which have controlled and equalized the flow of the river. The Authority has instituted and stimulated better farming and reforestation practices. It is moving into the upstream tributaries to assist local groups to do the same kind of job on a smaller scale as TVA had done to solve the river basin's larger water problems. TVA and the seven valley states are jointly undertaking to abate pollution of the waters of the Tennessee and its tributaries, assisted by the federal government's grant-in-aid program under the Water Pollution Control Act.

But the TVA has made sure that full control of its 22.5 million acre-feet of total runoff during a dry year will meet the quantity element of the water equation.

During the peak period of water drawn upon in the region between July and September, the Tennessee river system has a dry year runoff of 7.6 million acre-feet. TVA forecasts that against this dry growing season runoff, a total of only 692,000 acre-feet will be withdrawn, of which 129,000 acre-feet would be lost from consumption.

The Pacific Southwest situation suggests the immediate need to take another look at expansion of irrigation, with its large water loss from evaporation and transportation. It should be weighed against the

alternative value of shifting priorities to meet the tremendous needs of municipalities and industry. It also suggests the need of largescale water importation and expanded desalinization programs in certain coastal areas.

In the Northeast, the first order of business is to clean up the rivers, streams and estuaries while planning ahead for necessary surface and groundwater storage to meet low flow and drought periods and to achieve greater efficiencies in use.

The Tennessee River Valley is not without its problems, but its water supply for decades is safe, a basis for orderly economic growth. With adequate quality control of pollution by the large and small communities in the Valley, there should be relatively clear sailing ahead in the foreseeable future.

In 1907, President Theodore Roosevelt called together his newly formed Inland Waterways Commission, writing "... the time has come for merging local projects and uses of the inland waters into a comprehensive plan designed for the benefit of the entire country. Such a plan should consider and bring together and coordinate the points of view of all users of water."

The following year, his National Conservation Commission took the first inventory in the nation's history of the resources stockpile: water, forests, land and minerals. The key recommendation of this Commission has been the goal of all water development schemes since that time:

"Each stream is essentially a unit from its source to the sea; . . . the benefits of a system of waterways improvements will extend to all the people . . . in the use of natural resources the independent states are interdependent and bound together by ties of mutual benefits, responsibilities and duties."

The application of the principle, although given lip-service through the years, has been uneven at best. Out of it have come the comprehensive, multiple-purpose developments, with the river basin as the unit of operation pioneered by the TVA. Other river basin developments of narrower scope but substantial achievements have taken place on the Columbia, Colorado and Missouri Rivers, in California's Central Valley and the Southwest. But other important regions have been left out.

Since 1907, some twenty-odd national commissions have studied the problem of water. It is ironic that their recommendations have all paid homage to the principle of comprehensive, multiple-purpose river basin development. All have agreed on the relationship between water supply, population and economic expansion, on the need for sound planning and on the expanded reliance on research.

Increasingly since World War II, the criteria of comprehensive, multiple-purpose river basin development of clean water has enjoyed a national consensus.

Moreover, recent surveys of the national water situation have stressed its urgency, caused by the sheer increase in aggregate and per capita demand. In-

creasing population, urbanization and the multiplying needs of the technological revolution aggravate the situation. This makes it even more imperative that, within the general comprehensive approach, wise and far-seeing planning, economic and engineering evaluations and well directed research be the instruments to achieve practical solutions.

Enough clean water for everyone is not an end in itself. Water is for people, for their basic needs of survival and for the promotion and building up of their economic welfare, their living standards, their recreational and esthetic enjoyment and the protection of their health.

The benefits of a comprehensive approach have been frustrated and diluted by compromise. Special interest drives, shortsighted budget paring, parochialism and jealousies of states and localities, overlapping and conflicting federal jurisdictions all play their parts in complicating the basic difficulty.

Yet America's water experts have concluded that there is enough water to go around for many years to come, if . . . and it is a big if.

The key question is whether government at all levels, industry and the citizenry are prepared to rapidly move forward to plan, organize and carry out comprehensive programs to achieve full use of the nation's water potential and are willing to foot the bill.

Although the Kennedy and Johnson Administrations have become aware of the nation's water dilemma and have developed a number of programs to work toward its solution, what has been done thus far is simply inadequate to the challenge. This is true not only in the financial effort of the federal government for both longstanding and new programs, but also in the failure to reorganize and streamline those federal resources agencies with responsibilities in the field of water and associated land resources.

It is only fair to state, however, that between 1961 and the present, the volume of conservation legislation enacted has been without precedent.

Programs enacted, all of which have received the endorsement and active support of labor, include the Wilderness Preservation Act; the 1961, 1965 and 1966 amendments to the Water Pollution Control Act; the Land and Water Conservation Act; expansion of the federal water desalinization program; the Water Resources Planning and Water Projects Recreation Acts signed by the President in 1965. Amendments

to the 1965 Housing Act liberalized federal matching grants to communities to acquire land for open space and supplemented the federal grants in aid program for communities to build and improve sewage treatment plants under the Water Pollution and Community Facilities Acts.

An amendment to the Rivers and Harbors Flood Control Act of 1965 may well be its most important part, as it authorizes the federal government to establish plans to develop major comprehensive water development plans for the eastern United States.

In addition, new national parks, lake, seashore and other federal recreational areas have been created, with still others being proposed or on their way through the legislative mill of Congress.

Yet the federal, state and local governments and private industry are merely pecking at the pollution problem. The federal government is merely pecking at the problem of full development of surface and underground water resources and securing additional supplies from a strategically placed desalting effort.

It is of utmost importance in the kind of society which labor seeks that all Americans have enough clean water to drink, to sustain their jobs, their businesses and farms, their communities and their recreational enjoyment. National policy should clearly state that every American in every region must now and in the future be assured of a dependable supply of clean water for all uses. A coordinated effort by the federal government, with the assistance and cooperation of states, localities, private industry and all elements of American life can achieve this goal.

The AFL-CIO regards as of immediate importance the necessity of substantial increases in federal grants-in-aid to assist towns and cities to construct sewage treatment works and modern sewage disposal systems, stronger federal enforcement procedures without present procedural delays and more adequate preventive measures against industrial pollution.

Labor also has urged that well directed, adequate research and manpower programs be geared to the overall water resources effort and that the soil conservation program be revitalized.

Are Americans willing to shoulder the costs of such a program? The costs will be enormous.

In 1961, the Senate Select Committee on National Water Resources forecast that providing another 300 million acre-feet of active water storage capacity



Man-made pollution. Industrial waste can be seen pouring into Lake Erie. It will cost \$20 billion to clean up a dead area of 2,500 square miles deprived of oxygen by wastes from cities like Detroit, Ashtabula and Toledo and from Canada.

between 1954 and 1980 would cost \$11 billion (mostly federal money), and 127 million acre-feet additional storage by 2000 would require the investment of another \$6 billion.

Various estimates of the future costs of an adequate water quality program for the nation have been made since 1961, when the Select Committee projected a possible \$35 billion by 1980 and an additional \$39 billion between 1980 and 2000.

In 1968, the Interior Department's Federal Water Pollution Control Administration estimated that the capital costs of constructing water waste treatment and sewage interceptor plants in the U.S. would amount to about \$8 billion between 1968 and 1973. In addition, it indicated in another study, up to an estimated \$48 billion might be required for the nation to construct separated systems of storm and sanitary sewers.

Such forecasts can only be rough approximations, but it is plain that the capital investments needed to clean up and store waters for the American people between the present and the end of the century will be enormous—possibly on the order of \$75 billion or more.

The prevailing federal annual outlay on all conservation programs was about \$3 billion in 1968. Contrast this with the water quality needs of New York State alone—\$1.7 billion and an estimated \$20 billion if Lake Erie is not to die.

Since enactment of the 1965 Clean Water Act, progress has been slow, spotty and filled with controversy. The Congress amended the Act in 1966, established a \$3.4 billion federal grants program to assist the municipalities to build waste water treatment plants for the period fiscal years 1968-71, increased the federal individual matching share and took the statutory ceiling off the total amount that could be granted localities under the formula. For fiscal 1968 and 1969, however, the President's budget requested appropriations for only slightly more than one-half and one-third of the authorizations for those two years, respectively.

The Federal Water Pollution Control Administration has been in a more or less continuous altercation with various states required under the 1965 Act to set water quality standards within their boundaries meeting federal criteria. Although all states were required by the Act to have their proposed water quality standards approved by the Interior Secretary not later than June 30, 1967, only 31 had been approved as of May 1968.

The irresolution of the federal government in using its enforcement powers to move decisively into areas of interstate pollution has helped to make bad situations, such as those around Chicago, Lake Erie and other areas, even worse.

The administration of the Clean Water Act, particularly in its grants program, has been hampered by jurisdictional overlaps with programs conducted by the Department of Housing and Urban Development, Economic Development Administration, Farmers Home Administration and the Appalachian Regional Commission.

A vast outpouring of public funds will not in itself do the job. By drawing on the experience and lessons

learned by TVA and other regional organizations, comprehensive plans can be readily prepared to achieve necessary control of surface and groundwaters to improve water supplies.

Systems to achieve quality control of water, however, have not as yet been devised, even in local situations, let alone river basins.

It is becoming more and more necessary to devise such systems operating over entire river basins, using all the implements of research, systems analysis and advanced management techniques. The present antiquated approach of relying solely on piecemeal, local waste treatment just will not produce results.

Beyond the area of the water problem, however, is a broader question which underlies the capabilities of meeting this and other serious situations spawned by population growth and concentration and rapid social, economic and technological change.

Presently constituted political instrumentalities, federal, state and local, are finding it more and more difficult to respond effectively to the massive, complex and increasingly interrelated human problems of the last half of the 20th century. The effectiveness and speed with which this is recognized and dealt with by the nation will in great measure determine the success and efficiency of public and private resources committed to the water sector.

As a beginning, labor has urged that the federal resources agencies be reorganized and streamlined to eliminate waste, duplication and jurisdictional infighting. Special interests have too long pursued narrow goals in agencies like the Bureau of Reclamation, Army Engineers, Fish and Wildlife, National Parks, Public Health, Soil Conservation and Forest Services.

At the federal level, there is need for sound, businesslike management control over investments for resources development and other capital investments. These should not be considered as current expense items in budgeting, but carried as capital investments in a modern federal capital budget.

If the eastern drought should return, millions more people will have their water rationed. If there is drought in the Southwest and Plains States, farmers and townspeople will see their pumps sucking sand and mud instead of water and they will be importing it from a more fortunate area in tank cars.

Along the streams that are lined with factories, steam electric plants, packinghouses and communities, small and large waters will run with waste and silt, turn their uglified surfaces to the sky and fill the air with stench.

This is the way it will be, and worse, just as long as the nation allows it and is unwilling to pay the full price to put its water resources in order.

A TVA booklet calls water "nature's constant gift." This gift is deserved only if it is cherished, preserved and wisely used. The time for Americans to be worthy of it is now.



The Energy Revolution: *Peril and Promise*

The energy revolution has transformed America. One has only to contrast the society of Washington and Jefferson with that of the 1960s. Energy has been developed in such varieties and in such abundance that it has changed the daily life of every person. It has at times been more decisive than ideologies and it has often left economic and social institutions obsolete as man has continued an apparent conquest of his physical environment.

The change has been dramatic. A century ago, the muscle power of men and domestic animals supplied 94 percent of the world's energy needs; fossil fuels like coal and oil supplied only 5 percent. Today the situation is reversed. The industrialized nations now obtain 93 percent of their energy needs from coal, oil and natural gas; the muscle power of men and animals provides only 6 percent and waterpower contributes 1 percent.

In the past half century, the burdens of darkness, discomfort and drudgery have been replaced by light and heat and comfort. Candles have given way to electric lights and wood fires for cooking have been replaced by gas and electricity. The plentiful supplies of energy in the home, on the farm and in the factory have created producing and consuming capacities beyond the dreams of utopians. Energy has laid the basis for transportation and communications which have made this nation the most mobile society in history.

The changes set loose by the energy revolution will doubtlessly accelerate. The U.S. population is expected to exceed 300 million by the year 2000. Thus

there will be an increase as well in the current problems of promoting economic growth and achieving full employment, of raising living standards and maintaining a costly defense program, of protecting the environment, of exploring outer space and aiding the developing nations. The present stupendous demands on energy resources, raw materials and land and water shrink when compared to the soaring demands foreseen for the next four decades.

About five-sixths of all the fossil fuels—such as coal, oil and natural gas—consumed since the beginning of their use have taken place over the past 60 years. The total consumption of all such fuels used before the year 1900 would not last 5 years at today's rate of consumption.

The pressure of more and more people and their needs is the basic factor here and throughout the world in attempting to answer the inevitable question: Will there be enough to go around?

Here in the United States the immediate question is whether we have sufficient supplies of energy to sustain a rate of economic growth necessary to accomplish the essential goals of America's domestic and foreign policies.

One thing is sure. With all of man's ingenuity and adaptability and thirst for more and more knowledge, he still must work within the limitations imposed by the earth's natural environment.

Reverend Thomas Malthus of England postulated over 160 years ago that population growth tended to



outstrip its means of subsistence. In his view and that of latter-day Malthusians, this built-in imbalance was periodically "corrected" by economic depressions, poverty, disease, pestilence and famine.

Malthus did not foresee the decline in the birth-rate in industrial countries which has taken place. He did not foresee the growth of a new agricultural technology which has resulted in immense increases in per acre yield in spite of only a moderate increase in land under cultivation. Nor did he foresee the new sources of energy, together with increasingly efficient methods of discovery, extraction, processing, transportation and use. Science has released humanity from the despairing destiny implicit in Malthus' philosophy.

But there are warning signals. Most people in the world still go to bed hungry. Famines still sweep countries like China and India, with a major famine feared in India within the next decade.

In the United States itself there is a blind and optimistic reliance on the ability of science and technology to find all the answers to the problem of supplying enough energy, food, water and raw materials to meet the voracious demand of an increasing population and an expanding economy.

Often overlooked is the fact that the effect of the energy revolution is at variance with nature's scheme of conservation of raw materials and energy which had endured for millions of years before the impact of the late-comer, man, began to be felt.

And, too, the more the environment is modified by human beings, the more interdependent human institutions become and so the more easily they can be disrupted.

The history of the heedless exploitation of natural resources in building up this nation to its 20th century greatness is well known. Yet topsoil laboriously built up through centuries is still exposed by the bulldozer, the axe and power saw, or by the farmer, to be washed away by the rains or scattered by the winds. In many

areas the water cycle has been destructively disrupted. Human and industrial wastes continue to befoul streams and rivers. Clean air is now being laden with contaminants from motor vehicles, industrial processes and coal-fired power plants. Poisonous radioactive fallout still drifts across continents as a result of previous testing of nuclear weapons in the atmosphere.

As biologist Dr. Barry Commoner said in a recent speech: "... the vast new powers of science carry with them equally vast and equally new responsibilities." Commoner urged that scientists, citizens and government administrators work together to "find the means to preserve ... the water, the air and the soil and to conserve the resources of this planet for their proper service to the welfare of man."

It is imperative that the new energy revolution be for people. Unless it is guided by well-defined and progressive national economic and social policies and goals, together with all necessary social controls, the new age of energy abundance will not mean a more satisfactory life for most people nor can it meet their yet unfulfilled needs and aspirations.

Trends in the Use of Energy

An epic story lies behind the cold statistics on the uses of energy in America. It is a story of how man found a nation richly endowed with coal, oil, natural gas and falling water and used these resources with vigor and ingenuity to transform an agricultural economy and build a mighty industrial civilization.

The enormous increases in the use of energy fuels have been stimulated in great part by a rising population, by shifts from older to newer fuels, by higher income and living levels. These changes have continuously increased per capita energy use. At the same time, there have been fewer and fewer workers involved in the extraction, processing and transportation of energy fuels in proportion to total economic activity.

Between 1900 and 1960 the use of energy for all purposes by Americans increased by 500 percent. In 1960, the United States consumed the energy equivalent of 8 million barrels of oil, nearly 2 million tons of coal and about 45 trillion cubic feet of natural gas.

In contrast to this five-fold increase in energy consumption over six decades the population of the U.S. rose by 142 percent and the per capita use of energy moved upward by almost 250 percent.

With only about 6 percent of the world's population, the United States uses one-third of the total world production of energy. It has an annual per capita rate of use six times that of the average per capita use of the rest of the world. Each American man, woman and child has working for him each year, either directly or indirectly, the equivalent of the energy contained in 9 tons of coal.

In 1850, the U.S. derived 90.6 percent of its energy (other than that supplied by the muscles of men and of domestic animals) from the burning of wood in industry, for heating and transportation purposes. The remaining 9.4 percent of the aggregate national energy

consumption was obtained from the burning of bituminous and anthracite coal.

Fifty years later, by 1900, fuel wood had been superseded by coal as the principal energy source for the nation—70.3 percent coal, 20.7 percent fuel wood. By 1900, the second great shift in energy fuel sources was beginning—petroleum, natural gas and hydro-power together were accounting for 9 percent of total U.S. energy use for all purposes.

By 1960, petroleum products, including natural gas, had toppled King Coal from its throne. Coal provided only 24.5 percent of energy used in the nation, with oil and natural gas providing 68.4 percent. Hydro-power and fuel wood each supplied about 3.5 percent of U.S. energy consumed in 1960.

Most experts are in general agreement that these proportions are likely to hold in the immediate period ahead.

The change from wood to coal laid the basis for the growth of the iron and steel industry. Expanded steel production stimulated the construction of railroads throughout the country, metal machines of all kinds spurred the growth of mass production. New and cheaper sources of lubrication and illumination came from petroleum products.

During this century, liquid fuel and electricity have made possible even more changes. Lighting, communications and automatic controls and farm operations—all have been changed and reorganized. Liquid fuels have made possible the vast growth of automotive transportation and highway systems carrying motorized vehicles. Each innovation, each shift from older to newer energy forms—in combination with other changes—has transformed ways of living.

Next to water and air, upon which we depend for existence, energy is our most indispensable resource. Without it, an urbanized industrial society and today's manner of living would be impossible.

Future Energy Requirements

Since World War II, searching questions have been raised concerning future trends in the demand for energy. The aim is to ascertain the amounts necessary to maintain an adequate supply and establish the necessary policies and programs to secure it.

Since the landmark study of the energy and raw materials situation was presented to President Truman by his Materials Policy Commission (Paley Report) in 1952, a number of important analyses of the problem have been made. Studies have been conducted by the Senate Select Committee on Water Resources, the National Academy of Science, the Atomic Energy Commission, the National Fuels and Energy Study Group and others. The most ambitious attempt to update the far-reaching Paley Report was "Resources in America's Future," a 1963 study issued by Resources for the Future, a non-profit organization. The Federal Power Commission's National Power Survey was released in 1964.

Most previous forecasts of U.S. energy demands

have been underestimates. Actual requirements, in particular that for electric energy and natural gas, have had a consistent habit of bursting the seams of nearly every forecast. Even now, many present estimates discount the possible future effect of nuclear energy as a competitive fuel on the demand for power.

In view of an increasing U.S. population which will reach about 300 million people by the year 2000, a doubling of per capita use of energy during the next 35 years, the total demand for coal, oil, natural gas and electric power will increase threefold by 2000. By that time, the demand for electric power may have quadrupled.

Available Energy Reserves

It is quite evident that it will be necessary to triple available energy supplies from coal, oil, natural gas, hydropower and nuclear fuels to carry out this nation's obligation to its domestic and foreign commitments and maintain an expanding economy for the rest of the 20th century.

Does America have enough energy fuels within its borders or available from other countries to go around?

One British Thermal Unit (BTU) is the amount of energy sufficient to heat one pound of water one degree fahrenheit. The 1962 Senate fuels and energy study indicated there are fossil fuel reserves (coal, oil and natural gas) of about 28-30 quintillion BTUs. One quintillion is expressed numerically as 1 followed by 18 zeros.

Using somewhat different definitions, the U.S. Department of Interior furnished the Atomic Energy Commission with energy reserve estimates used in the Commission's 1962 study on civilian nuclear power. Interior showed about 130 quintillion BTUs of fossil fuel energy reserves—6 quintillion were known and could be processed at about the same costs as those presently prevailing; 124 quintillion were in the form of marginal, more costly and inferred but not yet discovered resources. About 1.4 quintillion BTUs of energy resources had been consumed in America by 1962 and, by 2000, an estimated 5 quintillion BTUs will have been used up.

On this basis the U.S. will have depleted its presently

IMBALANCE IN CURRENT U.S. USE OF FOSSIL FUELS



SOURCE: Pg. 19, "Nuclear Power, U.S.A.," by Zinn, Pittman and Hogerton. Copyright 1964 by McGraw-Hill, Inc.

known low-cost energy reserves within the next century or less and all foreseeable conventional energy resources within 150 to 200 years.

It should be kept in mind that all forecasts of energy consumption become less reliable the further into the future they attempt to penetrate.

Coal and petroleum resources are non-renewable; that is, they were formed by intense heat over millions of years. Each ton of coal mined, each barrel of oil or thousand cubic feet of natural gas extracted from wells reduces the national and world supply absolutely.

Yet estimates of available supplies of oil and natural gas are constantly being revised as new discoveries are made, both in the United States and abroad. The coal reserves of this country are still enormous and appear ample, for this century at least. The higher costs of the exploration and location of oil deposits and of mining lower grade coal at greater depths will tend to affect consumers in the years to come unless new techniques and devices offset this trend.

Competing new sources of energy inevitably will make it less desirable to expand exploration for new fossil fuels resources (coal and petroleum), even without taking into consideration the desirability of their wise conservation.

A tapering off of the heavy dependency on the use of these energy fuels long before the time of their exhaustion can be expected. During this period technological change within the fossil fuel industries will slow down the rate of their depletion and reduce the costs of their extraction, processing and transportation.

America, with only 6 percent of the world's population, contains about 30 percent of the world's supply of fossil fuels. While the world rate of energy use is about the same as that of the United States, it is depleting its less extensive reserves three times more rapidly.

For example, the United States has become a net importer of petroleum, obtaining about 20 percent of its requirements from abroad. This, however, reflects the lower world market cost of petroleum, not a present shortage of U.S. oil.

America's energy conservation position will not in the long run be aided by this growing dependence on foreign sources of oil. As industry and technology are accelerated in the developing nations, this will increase the world consumption of oil and other energy fuels, with foreign reserves becoming depleted before our own. This cannot but aggravate the strain on U.S. oil and coal deposits as they will be called upon for export. This situation requires swift steps to:

1. Supplement existing fossil fuels wherever economically-feasible new or supplementary energy fuels can be used on a meaningful scale;
2. Develop increasingly efficient methods of discovering, extracting, processing, transporting and using conventional, new and supplementary energy fuels;
3. Develop new and improve on present techniques of electric power generation and transmission.

Two new and enormous sources of energy are expected to play a significant part in achieving the goal of enlarging the resource base of America and the world within the next two or three decades or sooner.

The new energy sources are oil from shale rock and nuclear power derived from uranium and thorium.

The New Shale Oil Resource

Beneath the plateau country of the Upper Colorado River Basin in portions of Colorado, Utah and Wyoming, lies the largest energy resource in the world—oil shale—containing a petroleum equivalent 40-fold larger than the nation's combined reserves of coal, liquid petroleum and natural gas. It is capable of meeting the future requirements of the United States for the next two centuries and is conservatively worth between \$2.5 and \$5 trillion.

Eighty percent of the oil shale potential is owned by the United States and administered by the Bureau of Land Management of the Department of Interior.

The emerging question is whether this enormous energy storehouse will be developed and controlled to benefit the nation or to enrich a handful of giant oil companies.

The efforts of labor, conservation, farm and consumer groups, have slowed down what appeared to be a fast takeover by the large oil companies, with the purpose of getting the oil shale lands and then developing them at their leisure and on their own terms. The Secretary of Interior, the Senate Interior Committee and the Senate Anti-Trust and Monopoly Subcommittee were warned by these groups that many basic questions need to be solved before development gets under way.

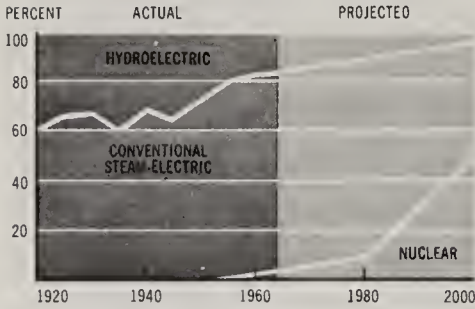
Oil shale rock has been used for heating and later for liquid petroleum for more than 125 years, particularly in high fuel cost areas in Europe, Asia, Australia and South Africa. Even now it is used for gas in heating in Estonia and Leningrad, USSR.

Although supplanted as an expanding energy source by the big oil discoveries in the U.S. and elsewhere, there was an intense and speculative boom shortly after World War I in Colorado, followed by enactment of the Minerals Leasing Act of 1920 which closed off filing of oil shale claims under the 1872 Mining Acts. In 1930, President Hoover withdrew all federal lands from oil shale development and, during the New Deal, President Roosevelt opened them up only for conventional oil, gas and sodium leasing.

The World War II petroleum shortages stimulated development by the Department of the Interior of a pilot oil shale program near Rifle, Colorado, to develop an economically competitive technology. This was abandoned under oil company pressures during the Eisenhower Administration and taken up again with the oil companies operating the facility under government contract during the Kennedy and Johnson administrations.

In 1963 and early 1964, the AFL-CIO informally urged the Secretary of the Interior to appoint a broad-

THE CHANGING SHARES OF U. S. POWER OUTPUT



SOURCE: Pg. 19, "Nuclear Power, U.S.A.," by Zinn, Pittman and Hegerston. Copyright 1964 by McGraw-Hill, Inc.

based Oil Shale Advisory Committee, which released its report in 1965. The group agreed that the oil shale resource was immense and valuable, but split on policy and program of development, in particular the respective roles of the federal government and of industry.

In 1967, the Secretary announced a proposed 5-point development program, leading to fullscale commercial leasing. This program was opposed by labor, farm, consumer and conservation groups before hearings conducted in February and in May 1967, both by the Senate Interior Committee and the Anti-Trust and Monopoly Subcommittee of the Senate Judiciary Committee and under chairmanship of Senator Hart of Michigan.

In 1967, legislation was introduced in both the Senate and House to establish an orderly program of oil shale development in the public interest, a position supported by the AFL-CIO. Also that year, the Secretary announced that he would review his own proposals.

A modified set of program recommendations was issued by the Secretary on May 29, 1968. While modifying his 1967 program in some respects, these do not constitute an adequate program and continues its control squarely in the hands of the grandfather oil companies.

The problems facing oil shale development are complex and difficult, but not insuperable. First, the cloudy federal title to the old claims prior to 1966 and the thousands filed during 1966, allegedly for sodium minerals, must be resolved in the courts. Second, the oil shale resource and the intermixed sodium minerals must be explored and evaluated. Third, an effective technology or technologies must be established for mining, crushing and heating the rock to release the liquid kerogen, but at the same time observe conservation values. Fourth, major policies of leasing, or of federal yardstick demonstration plants, must be determined and with it an effort to benefit consumers by lower prices for petroleum products, and the establishment of a competitive oil shale industry, together with safeguards against its being taken over by the oil corporation giants.

The 1967 policy statement on oil shale adopted by the AFL-CIO called for an orderly federal multiple-use oil shale development program which would "develop economically competitive and feasible methods of processing oil shale, and other intermixed minerals, foster the development of a competitive oil shale industry, protect the environment affected by such programs, help provide abundant supplies of low-cost petroleum products to the American consumer, safeguard leasing arrangements against monopoly, and use revenues from any leasing program to assist in financing federal public sector programs."

The battle over control of one of the richest resources still belonging to the American people is only beginning. Its outcome will be of great importance to the future of every citizen and every worker.

The New Nuclear Resource

Nuclear energy in a power reactor provides heat which makes steam which in turn generates electric power, heats buildings and is useful in other industrial processes. Except for the kind of energy fuel used, there is no difference between nuclear heat and heat derived from burning coal, oil or natural gas.

Nuclear power has certain restrictions in the range of its applications. Unit costs are attractive only in large-scale power plants and ships. The reason for this is the indispensable need for massive and expensive shielding and elaborate safety devices and precautions to protect against the possibility of nuclear accidents. For reasons of safety, atomic power stations until recently have been placed at some distance from large concentrations of population.

The safety factor in plant location is becoming less and less a point of objection, with advancing knowledge and experience in operating reactors. Nevertheless, attempts by utilities to construct large nuclear power installations in such cities as New York and Los Angeles have met with strenuous opposition from local groups on safety grounds.

The means must be found to provide citizens with better information on nuclear power facilities and safety problems involved if public confidence is to be achieved and utilities enabled to add nuclear plants to their systems, observing all necessary safety criteria to protect the public.

There are areas such as New England, the Great Lakes region and California, where the costs of coal, natural gas and fuel oil are very high. It is in these areas that nuclear power is now competitive in the costs of generating electricity with conventional fossil fuels. In the future, nuclear power also should be able to compete with other energy sources in the heating of homes and office buildings.

Environmental Problems

For many years, the Atomic Energy Commission has been developing experimental reactors of a design which will produce more nuclear fuel than is used in the generation of electricity. These are called breeder reactors.

The only breeder reactor now in commercial production is being operated on a test basis by a private power company near Detroit, Michigan.

It probably will be a matter of only a relatively few years before breeder reactors can be used by commercial electric utilities. They will make it possible to utilize the entire energy potential contained in uranium and thorium. This would mean the known nuclear resource would be increased by a factor of 100, making mining costs a negligible factor.

A breakthrough in breeder technology would open up for processing enormous quantities of low-grade uranium and thorium ore. Thorium is an element which yields a fissionable isotope uranium (U-238). These elements are found in the granitic rocks of the Appalachian chain from New England to Tennessee, in the Rocky Mountains and the Great Lakes states and in phosphate and shale oil rock in the Rocky Mountains, in Tennessee and Florida.

In ultimate terms, uranium and thorium, if mined to fuel more and more breeder reactors of the future, would stupendously multiply the energy resources of America some 2,300 times. This would give substance to a prophecy made several years ago by Lewis Strauss, former AEC chairman, that one day nuclear power would be so cheap and abundant it would not even be metered.

In the last decade, the costs of generating a kilowatt-hour of electric power from a nuclear-fueled plant has dropped from more than 50 mills to between 8 to 14 mills. Plants now under construction or planned will hopefully bring costs down to somewhere between 4 to 7 mills, fully competitive in many areas with large unit coal-fired power stations.

It must be remembered, however, that the long-range future of nuclear power does not lie with burner reactors now in use but with the breeders, simply on the basis of fully utilizing the resource. The value of the present generation of atomic power plants is mainly in high fuel cost areas, with great promise if employed

in huge units of a million kilowatts or more to generate both for power and large-scale desalinization of water in the southwestern and Gulf states and water-short regions elsewhere in the world. Work on this most important aspect of peaceful nuclear development is already proceeding with joint cooperation between the AEC and the Interior Department, with international scientific collaboration between the U.S. and Israel and the United States and the Soviet Union.

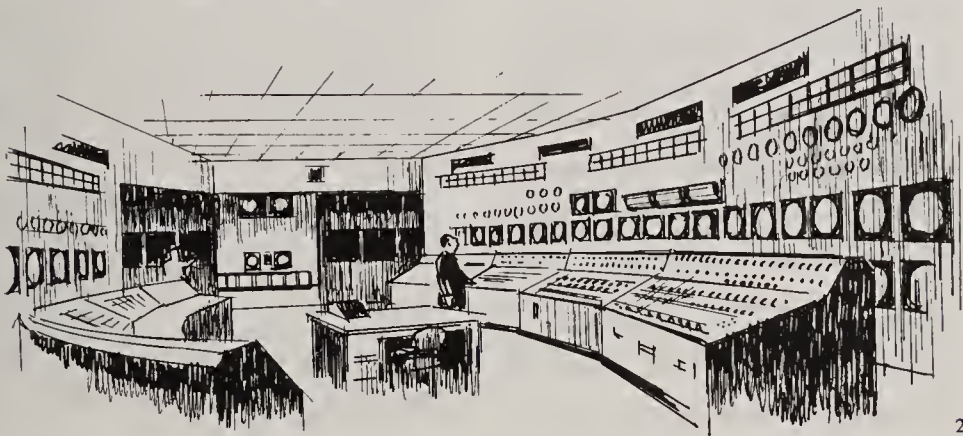
If shale oil and nuclear resources are brought into full play in serving the expanding energy requirements of a still increasing population in a full employment economy, they will provide an immense base from which the United States economy can rise to new heights.

The expansion of the utility industry even now accounts for about 10 percent of total national industrial construction. By 1980, its annual capital investment is expected to reach some \$6.5 billion and, by the end of the century, \$20 billion. Annual costs of generating and transmitting electric power may exceed \$15 billion by 1980 and approach \$50 billion by 2000.

Reductions in nuclear power costs would not only serve as healthy competition to coal and natural gas, but could largely eliminate the now significant differences in fuel costs between regions because of transportation costs and thus save consumers billions of dollars in power bills each year.

Moreover, expansion of shale oil uses will enable more effective conservation of conventional petroleum resources. In the same manner, the use of nuclear power to produce electricity will aid in conservation of coal reserves and stimulate research and development into other potential uses of coal—as a liquid fuel and in industrial processes—which would be non-competitive with nuclear energy.

With strong regulation through the federal power yardstick, there could be a lower rate base and lower bills for the nation's electricity users. It would be possible to sell power at prices not much higher than the



costs of transmission, operation, maintenance and replacement.

Such low costs could be expected to produce a soaring per capita use of electricity. Over the nation generally, but in particular in regions now penalized by higher energy fuel costs, industrial development would gain momentum.

Overcrowded and decaying urban centers could be decentralized, with populations gathered around nuclear energy complexes which would create power and expand other uses of nuclear energy. This would help create better towns and cities, better use of land and reduce the strain on transportation facilities.

New Generation and Transmission Techniques

In recent years, space and military research programs have developed a new concept of power generation—the direct conversion of the chemical energy of heat releases to electric energy. The aim of this research is to eliminate steam boilers, turbines and generators in the production of electric power.

Among the methods of direct generation being pursued is the thermo-electric generator, which enables electricity to be passed off into a wire from application of heat to electric conductors.

In the field of transportation, fuel cells bear great promise. They differ from the ordinary storage battery principle in that the energy is provided by chemical reaction and is not stored. The Tennessee Valley Authority has been experimenting with an auto powered by a fuel cell, with only 30-odd moving parts. Longer lasting fuel cells could provide a basis for a profound revolution in the petroleum and automobile industries.

Thermonuclear fusion power is based on the principle of releasing tremendous quantities of energy by combining lighter elements at high velocity to form new and heavier elements.

The world's nuclear scientists have been at work on the problem of containment of plasma in a magnetic field at temperatures between 40 to 100 million degrees centigrade in order to provide a sustained reaction emitting energy.

The heavy hydrogen atoms (deuterium and tritium) used in this technique are found throughout the world's oceans and seas. Success in achieving fusion power would place still another energy resource of almost inconceivable vastness at the disposal of the people of the world in the more distant future.

The technology of efficiently transmitting huge amounts of power over distances up to 1,000 miles or more has been designated as ehv (extra heavy voltage). More familiarly, when combined with huge coal or atomic-fueled generating plants, it is known as "giant power."

The giant power concept was pioneered by the late Gifford Pinchot in the 1920s. It was utilized in the early English power grid and by TVA and the Bonneville Power Administration during the 1930s and 1940s.

But since that time various European countries, in-

cluding the USSR, have expanded ehv to carry 500,000 volts or more of electric energy, as compared to the 345,000 volt lines of TVA and Bonneville.

The federal power agencies and private utilities of this country, however, are now expanding ehv in earnest. A vast system of ehv lines to exchange power between the Pacific Northwest and the Pacific Southwest to the Mexican border is well toward completion. Utilities, singly or in loosely-associated groups, are now exploring ehv.

The result most certainly will be regional, interregional power exchanges and finally a national power supply system. The thermal plants would supply the steady power demand, while hydro plants would be operated to meet sudden load demands of users.

The 1964 National Power Survey of the Federal Power Commission set forth the needs and advantages of such mixed ownership networks and suggested that it could result by 1980 in savings of fixed charges amounting to some \$11.7 billion a year for the nation—much of which could be passed on to the consumer in the form of lower electricity bills.

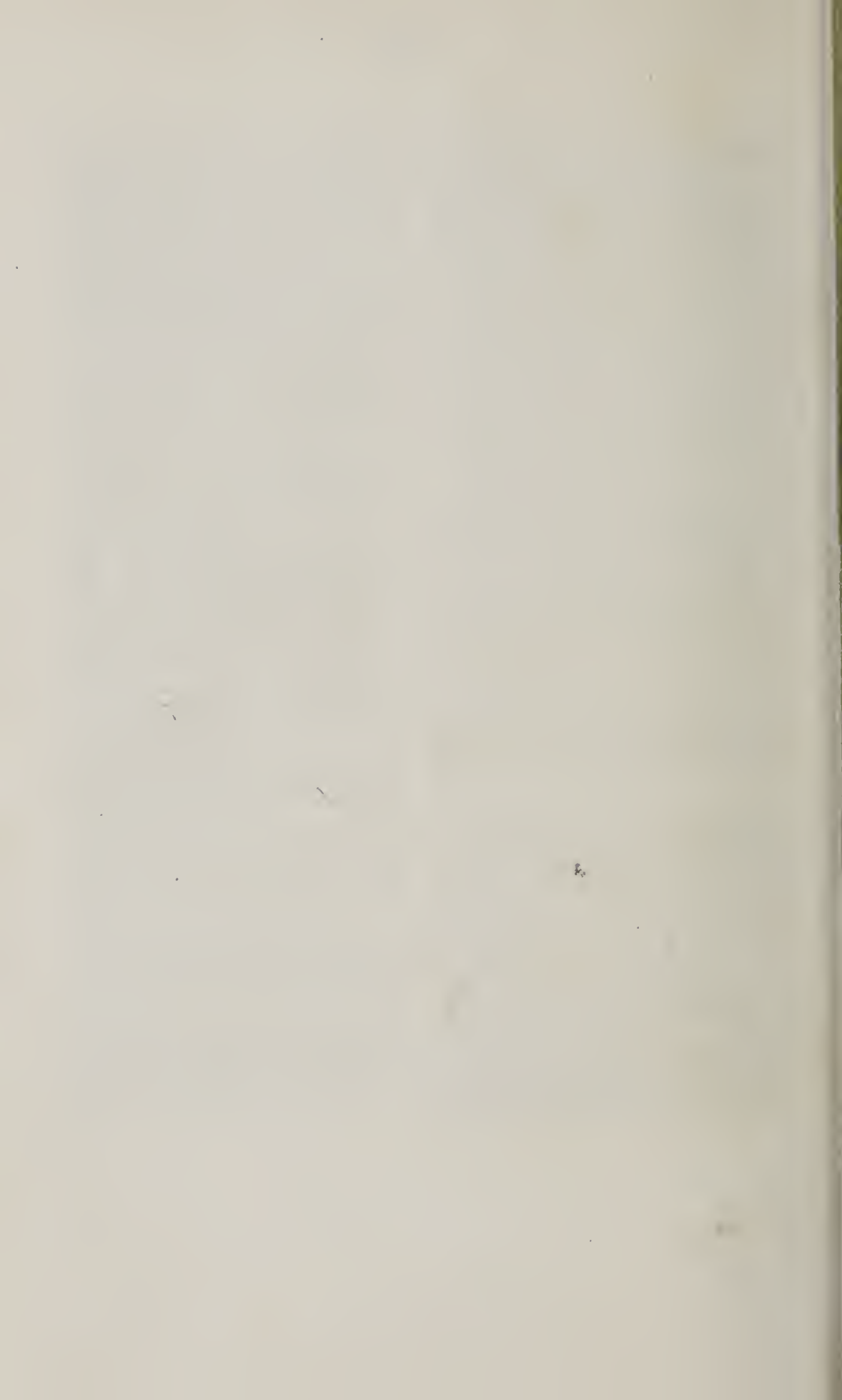
The national concern over the two major power failures of 1965 and 1967 which affected millions of citizens, resulted in FPC and administration proposed legislation to ensure reliability of electrical service and avoid major blackouts (the Electric Power Reliability Act of 1967). Legislation has also been introduced to require private utilities building nuclear plants to allow smaller consumer owned utilities to buy into them and thus obtain an adequate future power supply. Increasing attention is now being given by the Federal Power Commission as to the effects of transmission lines on the environment and of nuclear plants on thermal pollution.

As the nation's largest consumers' organization, the AFL-CIO is vitally interested that the fruits of such a new advance will be reflected both in abundant supplies of power and lower power bills. It is equally interested to assist in developing national policies designed to prevent monopoly control.

Today's need is for broad energy planning and policy decisions made at the national level and geared both to immediate and longer range national objectives of strengthening economic growth and stability. All such policies should embody widespread benefits to consumers, safeguards against growth of monopoly and employment of wise conservation, management and use, including the control of adverse environmental effects.

Not only must man use these forces for his release from the fetters of his natural environment, but he must come to understand that the forces he now controls have become so enormous and so impersonal that they are impacting his physical habitat and his social organization as well. The crucial task ahead is to find ways to harmonize the polarized extremes of the natural system of evolution and the deliberate manipulation of natural evolutionary processes by man. Human freedom and human wellbeing depend on how well this challenge is met.





91ST CONGRESS
1ST SESSION

S. 1075

IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 1969

Mr. JACKSON (for himself and Mr. STEVENS) introduced the following bill;
which was read twice and referred to the Committee on Interior and Insular
Affairs

A BILL

To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That it is the purpose of this Act to promote and foster
4 means and measures which will prevent or effectively re-
5 duce any adverse effects on the quality of the environment
6 in the management and development of the Nation's natural
7 resources, to produce an understanding of the Nation's
8 natural resources and the environmental forces affecting

1 them and responsible for their development and future well-
2 being, and to create and maintain conditions under which
3 man and nature can exist in productive harmony and fulfill
4 the social, economic, and other requirements of present and
5 future generations of Americans, through a comprehensive
6 and continuing program of study, review, and research.

7 TITLE I

8 SEC. 101. The Secretary of the Interior (hereinafter
9 referred to as the "Secretary"), in order to carry out the
10 purposes of this title, is authorized—

11 (a) to conduct investigations, studies, surveys, re-
12 search, and analyses relating to ecological systems and
13 environmental quality;

14 (b) to document and define changes in the natural
15 environment, including the plant and animal systems,
16 and to accumulate necessary data and other information
17 for a continuing analysis of these changes or trends and
18 an interpretation of their underlying causes;

19 (c) to develop and maintain an inventory of exist-
20 ing and future natural resource development projects,
21 engineering works, and other major projects and pro-
22 grams contemplated or planned by public or private
23 agencies or organizations which make significant modi-
24 fications in the natural environment;

25 (d) to establish a system of collecting and receiv-

ing information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment.

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environmental Quality established under title II of this Act.

1 SEC. 102. In carrying out the provisions of this title,
2 the Secretary is authorized to make grants, including train-
3 ing grants, and enter into contracts or cooperative agree-
4 ments with public or private agencies or organizations, or
5 individuals, and to accept and use donations of funds, prop-
6 erty, personal services, or facilities to carry out the purposes
7 of this Act.

8 SEC. 103. The Secretary shall consult with and provide
9 technical assistance to other Federal agencies, and he is au-
10 thorized to obtain from such departments and agencies such
11 information, data, reports, advice, and assistance as he deems
12 necessary or appropriate and which can reasonably be fur-
13 nished by such departments and agencies in carrying out the
14 purposes of this Act. Any Federal agency furnishing advice
15 or assistance hereunder may expend its own funds for such
16 purposes, with or without reimbursement by the Secretary.

17 SEC. 104. The Secretary is authorized to participate in
18 environmental research in surrounding oceans and in other
19 countries in cooperation with appropriate departments or
20 agencies of such countries or with coordinating international
21 organizations if he determines that such activities will con-
22 tribute to the objectives and purposes of this Act.

23 SEC. 105. Nothing in this Act is intended to give, or
24 shall be construed as giving, the Secretary any authority
25 over any of the authorized programs of any other depart-

1 ment or agency of the Government, or as repealing,
2 modifying, restricting, or amending existing authorities or
3 responsibilities that any department or agency may have
4 with respect to the natural environment. The Secretary shall
5 consult with the heads of such departments and agencies
6 for the purpose of identifying and eliminating any un-
7 necessary duplication of effort.

8 SEC. 106. There are hereby authorized to be appro-
9 priated such sums as may be necessary to carry out the
10 purposes of this title.

11 TITLE II

12 SEC. 201. There is created in the Executive Office of
13 the President a Council on Environmental Quality (here-
14 inafter referred to as the "Council"). The Council shall be
15 composed of three members who shall be appointed by
16 the President to serve at his pleasure, by and with the
17 advice and consent of the Senate. Each member shall, as a
18 result of training, experience, or attainments, be profes-
19 sionally qualified to analyze and interpret environmental
20 trends of all kinds and descriptions and shall be conscious
21 of and responsive to the scientific, economic, social, esthetic,
22 and cultural needs and interest of this Nation. The President
23 shall designate the Chairman and Vice Chairman of the
24 Council from such members.

1 SEC. 202. (a) The primary function of the Council
2 shall be to study and analyze environmental trends and the
3 factors that effect these trends, relating each area of study
4 and analysis to the conservation, social, economic, and
5 health goals of this Nation. In carrying out this function,
6 the Council shall—

7 (1) report at least once each year to the Presi-
8 dent on the state and condition of the environment;

9 (2) provide advice and assistance to the President
10 on the formulation of national policies to foster and pro-
11 mote the improvement of environmental quality;

12 (3) obtain information using existing sources, to the
13 greatest extent practicable, concerning the quality of the
14 environment and make such information available to
15 the public.

16 (b) The Council shall periodically review and appraise
17 new and existing programs and activities carried out directly
18 by Federal agencies or through financial assistance and make
19 recommendations thereon to the President.

20 (c) It shall be the duty and function of the Council
21 and the Secretary of the Interior to assist and advise the
22 President in the preparation of the biennial environment
23 quality report required under section 203.

24 SEC. 203. The President shall transmit to the Congress
25 annually beginning June 30, 1970, an environmental quality

1 report which shall set forth (a) the status and condition of
2 the major natural, manmade, or altered environmental
3 classes of the Nation, including, but not limited to, the air,
4 the aquatic, including marine, estuarine, and fresh water, and
5 the terrestrial environment, including, but not limited to, the
6 forest, dryland, wetland, range, urban, suburban, and rural
7 environment; and (b) current and foreseeable trends in
8 quality, management, and utilization of such environments
9 and the effects of those trends on the social, economic, and
10 other requirements of the Nation.

11 SEC. 204. The Council may employ such officers and
12 employees as may be necessary to carry out its functions
13 under this Act. In addition, the Council may employ and fix
14 the compensation of such experts and consultants as may be
15 necessary for the carrying out of its functions under this Act,
16 in accordance with section 3109 of title 5, United States
17 Code (but without regard to the last sentence thereof).

18 SEC. 205. There are hereby authorized to be appropri-
19 ated such sums as are necessary to carry out the purposes of
20 this title.

A BILL

To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

By Mr. JACKSON and Mr. STEVENS

FEBRUARY 18, 1969

Read twice and referred to the Committee on Interior
and Insular Affairs

prehensive plans. The time has now come for these plans to be put into effect. We will want to determine not only how far along they have progressed but also what further assistance, financial or otherwise, they require from the Federal Government.

We will, of course, welcome the views of all Members of the Senate who represent the States involved in the several regions, as well as from the Governors of those States. I ask any Senator wishing to testify in person kindly to call the subcommittee professional staff member, Stewart E. McClure, on extension 6176 to make arrangements.

The legislation in which I am joining Senator RANDOLPH today would authorize \$175 million for the five regional commissions other than Appalachia for fiscal years 1970 and 1971. These funds would enable the States and other entities within economic development regions to take maximum advantage of Federal grant-in-aid programs for which they are eligible but for which, because of their economic situation, they cannot supply the required matching share. Under criteria provided for in the act, these funds would be used for the purpose of increasing the Federal contribution to projects under such programs above the fixed minimum portion of the cost of such projects otherwise authorized by the applicable law.

One of the areas to be explored during the subcommittee hearings will be to determine if this level of funding is sufficient and to determine what might be the best way to insure that whatever funds are authorized and appropriated are put to the most effective and efficient use possible.

The subcommittee will also, at a later date, in addition to other activities, look into the applicability of the overall economic development program to the great urban areas of the country.

I look forward to the same fine cooperation with the other members of the subcommittee, both majority and minority, that we have enjoyed in the past, and I will welcome their advice and counsel.

Mr. BAKER. Mr. President, I join with my colleagues here today in enthusiastic support for this legislation and for the programs that it would extend.

It was not my privilege to be a Member of this body in 1965 when the Appalachian Regional Development Act and the Public Works and Economic Development Act established the six regional commissions that are the subject of the bill just introduced. But since coming to the Senate a little over 2 years ago, I have had the honor of serving on the Committee on Public Works and its Subcommittee on Economic Development. As a child and product of the heart of Appalachia, I have taken a particular personal interest in the activities of that commission and attach a great importance to what it has done and to what it yet can do. Deeply convinced of the efficacy of the commission approach, I have no less enthusiasm for the promise of the five fledgling commissions now organizing in other sections of our Nation.

Accidents of geography, demography, and changing industrial requirements have combined to isolate from full participation in the life of the Nation certain readily identifiable areas of our land. Areas once prosperous or at least promising have fallen further and further behind by any criterion: production, income, education, health facilities, mobility. Most of these areas are largely inhabited by a proud and independent people who do not beg for charity, be they American Indians in the Southwest or northern Great Lakes regions, farmers, and sharecroppers who work the soil in the Atlantic coastal plains, or the vigorous men and women who have long struggled for a decent life in the Ozarks or the Appalachians. But to overcome the natural disadvantages of environment and resources, they need our help so that they may help themselves.

The genesis of the Appalachian Regional Development Act, which has served as the precursor of and model for other regional development efforts was a unique event in the long and successful history of our federal system of government, and it was an event that holds out great promise for our national future, not only in those areas where commissions have already been established but in many other areas as well.

The impetus for the creation of the President's Appalachian Regional Commission in 1963, on whose recommendations the formal program was devised, came, as we all know, from the late John F. Kennedy, whose interest in and compassion for the people of that region is well known. He was able, through his eloquence and skill, to focus national attention on the need that was plainly there.

But while much of the Nation may have been unaware of the quiet crisis in the Appalachian mountains, the people of the region and their elected representatives had long been very much aware of it. Well before the national program was conceived or thought of as being politically or economically feasible, extensive local action was underway to improve conditions in the region. Each State in Appalachia had established a unit for economic development. Private individuals and private corporations and public officials and bodies of every size and description had been both inventive and tireless in their efforts to accomplish whatever they could with the sorely limited resources available to them.

But it was clear that these efforts, though valiant and productive of some progress, were not equal to the task. It began to be understood that by joining forces and working together toward solutions for mutually shared problems, the individuals and corporations and government bodies could avoid wasteful duplication and materially benefit by pooling their experience and expertise. And so the Conference of Appalachian Governors was formed. The chief executives of eight of the States most severely affected by the Appalachian syndrome voluntarily assembled to work together toward the hopeful resolution of common problems. Out of this governors' con-

ference grew the President's commission and the Appalachian Regional Development Act of 1965.

The Governors of the 13 States, parts of which now fall within the statutory definition of the Appalachian region, have continued to participate personally and with great enthusiasm in the activities of the commission. Single individuals in each State government have been given primary responsibilities as State regional representatives to coordinate the activities of State programs with the programs of the commission and of other constituent States. Although much remains to be done in the way of economic and social development, little remains to be done in terms of fostering meaningful and fruitful regional cooperation.

Mr. President, the promise of regional cooperation is very great. The part that it can play in the harmonious development of our Nation is very large.

And its usefulness must not be restricted to areas of severe economic hardship and deprivation, although the need for it is perhaps greatest in such areas. Regional development agencies could be used to great advantage in quite a different order.

Take, for example, the internecine competition and infighting that has for years impeded the equitable development and use of water resources in the western third of our Nation. Take, as another example, the tremendous advantages that could be found in a coordinated development of our tidewater and marine resources by a close cooperation of those States bordering on the sea. We are already beginning to see the first fruits of cooperation among States in the Delaware River Basin for the control of water pollution and the formation of compacts for the control of air pollution that likewise respects no political boundaries.

It makes no sense at all for neighboring jurisdictions who share common problems to pursue separate and often contradictory solutions. The regional concept can and will become a prime reinforcement of our federal system of government.

And so, Mr. President, it is with great enthusiasm and dedication that I support the legislation just introduced. As the distinguished chairman of the committee and chief sponsor of the bill, Senator RANDOLPH, has said, the bill is a point of departure for an in-depth look at what the various commissions have done and to obtain an understanding of what their future capabilities might be. I look forward to working closely with Senator RANDOLPH and Senator COOPER and other committee members in this endeavor. Having recently been honored by being made ranking minority member of the Subcommittee on Economic Development, I particularly look forward to my work with the distinguished new chairman of that subcommittee, Senator MONTANA, whose dedication to economic opportunity and social progress for all Americans is well known in this body and throughout the country.

Mr. SCOTT. Mr. President, I am pleased to be a cosponsor of the Appalachian Regional Development Act ex-

tension, introduced today by my most able and distinguished colleague, Senator JENNINGS RANDOLPH, of West Virginia. The bill provides for a 2-year extension of the act, and authorizes appropriations of \$175 million for that period.

Aid to Appalachia is proving daily to be one of the most efficiently operated programs ever to come out of Congress. Its great success, I believe, can also be attributed to the fact that a reasonable balance has been maintained between direction from Washington on the one hand, and control in the States and localities on the other. This Federal approach may prove to be the key factor in the solution of some of our other very great problems.

Since 1965, Pennsylvania has received approximately \$46.3 million in Federal money, which has since gone into 52 counties with a population of 6 million people. All Pennsylvanians look forward to the continued success and operation of this program. I commend Senator RANDOLPH for his vigor and dedication to the people of the Appalachian region.

THE JAMES MADISON MEMORIAL COMMISSION—APPOINTMENT BY THE VICE PRESIDENT

The VICE PRESIDENT. The Chair, pursuant to Public Law 86-417, appoints the Senator from Nebraska (Mr. HRUSKA) to the James Madison Memorial Commission in lieu of the Senator from Kansas (Mr. CARLSON), retired.

Mr. BYRD of West Virginia. Mr. President, I suggest the absence of a quorum.

The VICE PRESIDENT. The clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. JACKSON. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The VICE PRESIDENT. Without objection, it is so ordered.

S. 1075—INTRODUCTION OF BILL TO ESTABLISH A NATIONAL STRATEGY FOR THE MANAGEMENT OF HUMAN ENVIRONMENT

Mr. JACKSON. Mr. President, I am today introducing legislation which has as its purpose the establishment of a national strategy for the management of the human environment.

The purpose of this legislation is to lay the framework for a continuing program of research and study which will insure that present and future generations of Americans will be able to live in and enjoy an environment free of hazards to mental and physical well-being.

This measure, if enacted, would place a new emphasis on two aspects of Federal efforts in this critically important field:

First, title I of the proposed legislation authorizes the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems and environmental quality. It is critically essential that basic research in this neglected area be properly funded and immediately undertaken. The data and the knowledge

necessary to an understanding of man's impact on the environment is needed before Government and private industry can make knowledgeable decisions about how their activities and decisions affect man-environment relationships.

The need for basic research may be seen in connection with the current controversies over the short- and long-term impact of chemicals and pesticides on both human and animal life. Another example is the need for research on the social and legal aspects of weather modification, so that appropriate controls over the use of this emerging technology may be developed.

A contemporary example which has aroused great public concern in recent weeks is the Santa Barbara oil spill. An editorial in the February 14, 1969, issue of the Washington Post stated in part:

It is often man's crass indifference to the consequences of technological advance in exploiting nature which is leading to the despoiling of nature. That is to say, the gains from technology seem to run only one way—to profits rather than to preservation of a planet on which man can comfortably live.

The editorial went on to say:

The time has come to turn around the thesis under which natural resources have long been regarded. Instead of deciding that we must exploit them because we are technically able to do so, we ought to postpone exploiting them until the need is great or our knowledge of what damage exploitation may do is substantially larger.

In my judgment, more must be done, and it must be done soon, if we are to develop the data and the knowledge necessary to an understanding of the impact of man and his intrusive technology upon an environment that is unceasingly subject to growing pressures.

Second, title II of the bill would establish in the Office of the President a Council on Environmental Quality to study and analyze environmental trends; the factors that affect these trends; and how they relate to the conservation, social, economic, and health goals of the Nation. The Council would also advise and assist the President on the formulation of national policies to foster and promote the improvement of environmental quality, and in the preparation of an annual report on the quality of the environment as required by section 203 of the bill.

It is my judgment that a more effective process of policy review on matters affecting our entire biological and physical resources can be achieved by establishing a forum in the Office of the President for the consideration of alternative solutions to all environmental problems.

Our present governmental institutions are not designed to deal in a comprehensive manner with problems involving the quality of our surroundings and man's relationship to the environment. The responsibilities and functions of government institutions as presently organized are extremely fractionated. We have, for example, separate agencies and separate policies on shipping, fisheries, mines, forests, and water resource development. At some point in our history we felt it was wise to organize Government around these concepts. This organization reflects our early national goals

of resources exploitation, economic development, and conquest.

Our national goals have, however, changed a great deal in recent years. Today Government organization does not reflect this change in objectives and the new demands which are being placed on the environment.

At present the Federal programs of significant concern to environmental management are scattered throughout 11 of the major executive departments and 16 independent agencies. The problems of coordination and control are obvious. In my judgment, it is clear that new approaches are required if we are to be successful in the management of our future environment. Better concepts and better institutions must be designed to supplement the programs and goals of existing agencies.

I introduced similar legislation during the second session of the last Congress on behalf of Senator Thomas Kuchel and myself. The text of the bill as introduced in the 90th Congress, together with other relevant materials, may be found at page S18808 of the December 15, 1967, CONGRESSIONAL RECORD. Further materials from various sources discussing the need for a national strategy on environmental management may be found at page S959 of the February 6, 1968, CONGRESSIONAL RECORD.

One of the major problems which any effort to undertake a meaningful study of environmental and natural resource administration faces is that the subject spans the jurisdiction of many of the major committees of the Congress. In an effort to begin the process of review without impinging upon the legitimate legislative and jurisdictional interests of any committee of the Congress, Congressman GEORGE MILLER, chairman of the House Science and Astronautics Committee, and I served as cochairmen for the purpose of convening a unique and highly successful Joint House-Senate colloquium to discuss a national policy for the environment last July 17, 1968. The participants at the colloquium included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurance S. Rockefeller, Dean Don K. Price, of Harvard, and many concerned Members of the Congress. A varied group of scholars and Government officials also submitted statements and reports on the need for a national environmental policy and offered suggestions as to the content of such a policy.

The colloquium considered the broad policy implications of environmental legislation that had been introduced in the 90th Congress. More than 120 Members had introduced bills which were referred to 19 separate committees of both the House and Senate. Most of these measures dealt with individual resource management problems, environmental pollution, or the general decline in the quality of urban and rural living conditions. The colloquium was not, however, directed to a discussion of specific legislative proposals. In view of the widespread congressional interest in improving and maintaining the quality of the human environment, the colloquium was directed at the general question of the need for a national environmental policy.

A special report to the Senate Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use prior to the convening of the colloquium. This report was written by Prof. L. K. Caldwell, of Indiana University, with the assistance of Mr. William Van Ness, special counsel to the committee. Mr. President, because the report is now out of print and because it summarizes the requirements for policy effectiveness and the questions of implementing an effective program of environmental administration so well, I ask unanimous consent that selected portions of the report be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 1.)

Mr. JACKSON. Mr. President, following the colloquium, a congressional white paper was prepared by the Library of Congress Legislative Reference Service. This document, which was distributed to the Congress in October, summarized the key points raised in the dialog between Members of Congress and the colloquium participants. It also suggested a number of approaches that the Congress might follow in formulating a clear and forceful strategy of environmental management.

The colloquium disclosed that environmental management is one of the most difficult issues facing Congress and the administration today. This fact has long been recognized in academic and scientific circles. For example, last year the American Society for Public Administration devoted an entire issue of its journal, *Public Administration Review*, to the interaction of well-known environmental problems and the efficacy of existing Government programs to deal with conflicts and controversies over the use of the environment. The editor of the issue, Prof. Lynton K. Caldwell, of Indiana University, called attention to the numerous statutes that have been enacted by Congress on behalf of air and water pollution, public health, urban planning, atmospheric research, oceanography, rural conservation, and related fields. Yet he emphasized that these measures "do not cumulate to give us basic political doctrine that would guide social conduct as it impinges upon the environment."

In recent months a number of major conferences sponsored by philanthropic foundations and universities, including the Industry and Environment Conference held at Williams College in October 1968, have pinpointed very serious gaps in our private and public research effort to understand the long-term social implications of the environmental changes being wrought by rapidly expanding technologies and their industrial applications.

The bill I am introducing today would authorize the Council of Environmental Advisers to periodically review all existing programs and activities carried out by Federal agencies, as well as the private sector, to document and anticipate imminent environmental alterations, and to make appropriate recommendations to the President. The Council would thus help the President evaluate the trends of

new technologies and developments as they affect our total surroundings, and to develop broad policies, including those related to anticipatory research, to prevent future man-induced environmental changes which could have serious social and economic consequences.

The aim of this legislation is not to duplicate any existing research evaluation functions such as those carried out by the Office of Science and Technology. However, it is clear that scientific knowledge must be advanced and related to the public's interest in maintaining a quality environment and in establishing better man-environment relationships. The aim of my bill is to provide a continuing and thorough consideration of our Nation's overall progress in meeting national and international problems of environmental management which are critically important to the well-being of this country.

The need for an information gathering body such as the proposed Council in the Office of the President is clear. It is obvious that we must do more to anticipate environmental problems and develop strategies for their resolution before they assume crisis proportions. It is far cheaper—in human, social, and economic terms—to anticipate these problems at an early date and to find alternatives before they require the massive expenditures we are now obligated to make to control air and water pollution and to deal with recurring problems such as the recent Santa Barbara oil spill. The proposed Council could perform this function of problem anticipation, overview, and informal coordination.

It is noteworthy, Mr. President, that the present administration has been given recommendations along these lines. Early this year, the Brookings Institution issued a report, edited by Kermit Gordon, entitled "Agenda for the Nation" in which some of the Nation's leading observers of public affairs identify the major issues the executive branch must face in the months ahead. This report contains an essay by Prof. Stephen K. Bailey, dean of the Maxwell Graduate School of Public Affairs, Syracuse University, on the subject "Managing Our Federal Government." Professor Bailey described the need for restructuring the President's Office to reflect what many public administration experts consider the prime concerns of the Nation as viewed from the vantage point of the Chief Executive. These prime concerns are identified as first, national security; second, economic stability and growth; third, human resource development; and, fourth, environmental management and control.

In the first three areas cited, the President's Office has steadily strengthened its policy review capabilities by creating special councils and Presidential advisers. But as Professor Bailey noted, in the increasingly troublesome area of protecting the integrity and viability of our environment, the President's Office is patently deficient:

Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency . . . charged with the study of emerging public problems and the development of effective programs to deal with them

in terms of continuing and changing presidential perspectives of the public interest.

Professor Bailey went on to note:

The presidency is the only institution in the American polity where overarching and long-range public imperatives can be coherently analyzed and melded.

The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive. In the present age, as already noted, these prime concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses. (Emphasis added.)

At present, the President does not have at his disposal institutional arrangements that can help him plan wisely, to sort options judiciously, and to effect coordinated responses in the field of environmental administration.

While Professor Bailey's essay does not directly endorse the councilor approach for Presidential policy review in the environmental field, as I am now proposing, I think his arguments for more satisfactory machinery than now exist to devise a national strategy of environmental management are particularly significant and should be studied by the Congress and all others who are interested in maintaining a quality environment for present and future generations. Mr. President, I ask unanimous consent that excerpts from his chapter on this subject be printed in the *Record* at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 2.)

Mr. JACKSON. Mr. President, I also ask unanimous consent that an article by Mr. Peter Khiss from the January 14, 1969, issue of the *New York Times* be printed at the conclusion of my remarks.

The VICE PRESIDENT. Without objection, it is so ordered.

(See exhibit 3.)

Mr. JACKSON. Mr. President, the article discusses recommendations made to President Nixon by his Task Force on Resources and the Environment. It is reported that the task force recommend the naming of a Special Assistant for Environmental Affairs to the President and the establishment of a Presidential Council on the Environment. The new Council would, according to Mr. Khiss' article, represent a broadening of the membership and areas of responsibility of the present Council on Recreation and Natural Beauty. This report is for the President's confidential use, and it is not known whether the task force's recommendations will be followed. It is, however, my tentative view that the magnitude of the problems faced will require a more effective instrument than a revamped Council on Recreation and Natural Beauty.

Mr. President, the concept of man's total environment has emerged in the last few years as a new focus for public policy. Not long ago the ideal of a governmental responsibility for the health of the individual, for the state of the

economy, for consumer protection and for housing was considered revolutionary. Today, we have come to take these responsibilities for granted. We must now proceed to make the concept of a governmental responsibility for the quality of our surroundings an accepted tenet of our political philosophy.

It is time that we reexamine our national goals and purposes in managing the environment. New goals and new policies which are in the long-range public interest are clearly required. Their successful development will require the active participation of the States and private enterprise as well as the Federal Government.

In the Federal Government—and I suppose this may also be true of State government—we have sometimes indulged ourselves in the illusion that we are doing a grand job of environmental management. But the facts do not support this. Many of our approaches and programs have involved merely a cosmetic approach—"clean-up, paint-up, and fix-up." The conditions we are dealing with, however, are not cured by cosmetology. Many will require major surgery.

Our responses have been too narrow, too limited, and too specialized. In the past, we have established costly programs without a clear enough perception of the objectives and the goals we seek to attain.

Mr. President, we have reached the point in our national life where this country can no longer rely on the time-worn method of simply convening ad hoc study groups and task forces to make recommendations which are easily filed away and forgotten every time there is a new environmental crisis such as the recent oil spill off Santa Barbara, Calif.

I believe that President Nixon was correct in directing Dr. DuBridge, the President's Science Adviser, to bring together a panel of scientists and engineers to review the oil pollution problem. What is of grave concern, however, is that we are still only reacting to crisis situations in the environmental field. What we should be doing is setting up institutions and procedures designed to anticipate environmental problems before they reach the crisis stage.

We need to know what the risks are, and we need to know what options and alternatives are available in the development of our resources and in the administration of our environment. It is far cheaper in human, social, and economic terms, to anticipate these problems at an early stage and to find alternatives before they require the massive expenditures we are now obligated to make to control air, water, and oil pollution.

It is my judgment that the bill I am introducing today will, if enacted, go a long way toward giving the Federal Government an environmental problem anticipatory capacity.

In conclusion Mr. President, I urge President Nixon to consider very carefully the establishment of a Council of Environmental Quality Advisers in the Executive Office of the President.

Mr. President, I ask unanimous consent that the text of the bill be printed at this point in the RECORD.

The VICE PRESIDENT. The bill will be received and appropriately referred; and, without objection, the bill will be printed in the RECORD.

The bill (S. 1075) to authorize the Secretary of the Interior to conduct investigation, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, introduced by Mr. JACKSON (for himself and Mr. STEVENS), was received, read twice by its title, referred to the Committee on Interior and Insular Affairs, and ordered to be printed in the RECORD, as follows:

S. 1075

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is the purpose of this Act to promote and foster means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources, to produce an understanding of the Nation's natural resources and the environmental forces affecting them and responsible for their development and future well being, and to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans, through a comprehensive and continuing program of study, review, and research.

TITLE I

SEC. 101. The Secretary of the Interior (hereinafter referred to as the "Secretary"), in order to carry out the purposes of this title, is authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(d) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment.

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within

natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environmental Quality established under title II of this Act.

SEC. 102. In carrying out the provisions of this title, the Secretary is authorized to make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

SEC. 103. The Secretary shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Secretary.

SEC. 104. The Secretary is authorized to participate in environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations if he determines that such activities will contribute to the objectives and purposes of this Act.

SEC. 105. Nothing in this Act is intended to give, or shall be construed as giving, the Secretary any authority over any of the authorized programs of any other department or agency of the Government, or as repealing, modifying, restricting, or amending existing authorities or responsibilities that any department or agency may have with respect to the natural environment. The Secretary shall consult with the heads of such departments and agencies for the purpose of identifying and eliminating any unnecessary duplication of effort.

SEC. 106. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

TITLE II

SEC. 201. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, aesthetic and cultural needs and interests of this Nation. The President shall designate the chairman and vice-chairman of the Council from such members.

SEC. 202. (a) The primary function of the Council shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Council shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice and assistance to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment

and make such information available to the public.

(b) The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President.

(c) It shall be the duty and function of the Council and the Secretary of the Interior to assist and advise the President in the preparation of the biennial environment quality report required under section 203.

SEC. 203. The President shall transmit to the Congress annually beginning June 30, 1970, an environmental quality report which shall set forth (a) the status and condition of the major natural, man-made, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 204. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 205. There are hereby authorized to be appropriated such sums as are necessary to carry out the purposes of this title.

EXHIBIT 1

A NATIONAL POLICY FOR THE ENVIRONMENT—
A REPORT ON THE NEED FOR A NATIONAL
POLICY FOR THE ENVIRONMENT: AN EXPLA-
NATION OF ITS PURPOSE AND CONTENT; AN
EXPLORATION OF MEANS TO MAKE IT EFFEC-
TIVE; AND A LISTING OF QUESTIONS IMPLICIT
IN ITS ESTABLISHMENT

(A special report to the Committee on Interior and Insular Affairs, U.S. Senate, together with a statement by Senator HENRY M. JACKSON)

STATEMENT BY SENATOR HENRY M. JACKSON

Over the years, in small but steady and growing increments, we in America have been making very important decisions concerning the management of our environment. Unfortunately, these haven't always been very wise decisions. Throughout much of our history, the goal of managing the environment for the benefit of all citizens has often been overshadowed and obscured by the pursuit of narrower and more immediate economic goals.

It is only in the past few years that the dangers of this form of muddling through events and establishing policy by inaction and default have been very widely perceived. Today, with the benefit of hindsight, it is easy to see that in America we have too often reacted only to crisis situations. We always seem to be calculating the short-term consequences of environmental mismanagement, but seldom the long-term consequences or the alternatives open to future action.

This report proposes that the American people, the Congress, and the Administration break the shackles of incremental policy-making in the management of the environment. It discusses the need for a national environmental policy and states what some of the major elements of such a policy might be. It also raises a number of questions implicit in the establishment of such a broad-based and far-reaching policy.

The report does not purport to deal exhaustively with these subjects. Rather, it attempts to place some of the fundamental

questions concerning the needs for and the elements of a national environmental policy in the arena of public debate. If the report is successful in encouraging discussion and in refining some of the issues involved, it will have performed a worthwhile purpose. In the last few years, it has become increasingly clear that, soon, some President and some Congress must face the inevitable task of deciding whether or not the objective of a quality environment for all Americans is a top-priority national goal which takes precedence over a number of other, often competing, objectives in natural resource management and the use of the environment. In my judgment, that inevitable time of decision is close upon us.

If we are to make intelligent decisions which are not based on the emotion of conservation's cause célèbre of the moment or on the error of simply perpetuating past practices, there is a very real need to develop a national capacity for constructive criticism of present policies and the development of new institutions and alternatives in the management of the environmental resources of land, air, water, and living space. Developing this capacity will require that representatives from all elements of our national life—industry, the university, Federal, State, and local government—participate in forming this policy. It will require the creative utilization of technology to improve environmental conditions and to prevent unanticipated future instances of costly abuse. It will also require that government business, and industry pay closer attention to a far greater range of alternatives and potential consequences when they make environment-affecting decisions than they have in the past.

Finally, it needs to be recognized that the declaration of a national environmental policy will not alone necessarily better or enhance the total man-environment relationship. The present problem is not simply the lack of a policy. It also involves the need to rationalize and coordinate existing policies and to provide a means by which they may be continuously reviewed to determine whether they meet the national goal of a quality life in a quality environment for all Americans. Declaration of a national environmental policy could, however, provide a new organizing concept by which governmental functions could be weighed and evaluated in the light of better perceived and better understood national needs and goals.

This report was prepared for the use of the Senate Interior Committee by Prof. Lynton K. Caldwell, Department of Government, Indiana University, with the assistance of Mr. William J. Van Ness, special counsel to the committee, and the Natural Resources Division, Legislative Reference Service, Library of Congress. Professor Caldwell's contribution was, in part, made possible through an arrangement with the Conservation Foundation.

"Scientists from this country and the Soviet Union—and from 50 other countries—have already begun an international biological program to enrich our understanding of man and his environment.

"I propose that we make this effort a permanent concern of our nations. I propose that the United States scientists join with the scientists of the Soviet Union and other nations to form an international council on the human environment."—*From President Lyndon B. Johnson's Commencement Address at Glassboro State College, Glassboro, N.J., June 4, 1968.*

PREAMBLE

It is a major function of the Congress to propose and consider policies "to provide for the common defense and the general welfare of the United States." Today, a challenge to the safety and welfare of the United States and of the American people has arisen. The challenge is the rapid deterioration of

the environmental base, natural and man-made, which is the indispensable foundation of American security, welfare, and prosperity. Congress has recognized this challenge, and in accord with its responsibilities is preparing a response. Numerous proposals are now before the Congress to deal with what some of our best informed scientists and political leaders describe as an "environmental crisis." The purpose of this report is not to "view with alarm," but to raise the issue of whether there is a need for a national environmental policy and to discuss some of the major elements which might be considered for inclusion in such a policy. This report is intended to bring the issue of environmental policy into as sharp a focus as the complexity of its subject matter permits, and to identify some of the basic questions that would be encountered in shaping a national policy.

The threat of environmental deterioration, which the President of the United States has described as "a crisis of choice," is largely the result of the unprecedented impact of a dual explosion of population and technology upon limited resources of air, water, land, and living space. This challenge has not occurred before in American history nor in the history of civilization. Today the threat this challenge presents is widely recognized. Calls for action have come from many sectors of American society: from labor, from business, from agriculture, from science, from civic bodies, from religious, cultural and ethnic groups, from public agencies and from the elected representatives of the people. Symbolizing the national concern, the Department of the Interior entitled its 1968 Conservation Yearbook "Man—An Endangered Species?"; and the Chamber of Commerce of the United States has issued a call for action in a pamphlet bearing the headline "The Need: To Manage Our Environment." These publications, together with many others listed in appendix A, document the evidence and provide an outstanding of the dangers and costs of environmental deterioration. When these dangers and costs are understood, the need for a continuing effort to refine and establish a countervailing policy is apparent.

Therefore, the issue before the American people and their elected representatives is the kind of policy that will meet the need. To be effective, a national policy for the environment must be compatible and consistent with many other needs to which the Nation must respond. But it must also define the intent of the American people toward the management of their environment in terms that the Congress, the President, the administrative agencies and the electorate can consider and act upon. A national policy for the environment—like other major policy declarations—must be concerned with principle rather than with detail; but it must be principle which can be applied in action. The goals of effective environmental policy cannot be counsels of perfection; what the Nation requires are guidelines to assist the Government, private enterprise and the individual citizen to plan together and to work together toward meeting the challenge of a better environment. At the risk of some oversimplification, the task may be summarized in these terms:

(1) To arrest the deterioration of the environment.

(2) To restore and revitalize damaged areas of our Nation so that they may once again be productive of economic wealth and spiritual satisfaction.

(3) To find alternatives and procedures which will minimize and prevent future hazards in the use of environment-shaping technologies, old and new.

(4) To provide direction and, if necessary, new institutions and new technologies designed to optimize man-environment relationships and to minimize future costs in the management of the environment.

The challenge of environmental management is, in essence, a challenge of modern

man to himself. The principal threats to the environment are those that man himself has induced. A national policy for the environment is thus above all else a national policy for the welfare and survival of man. It is one more step in the journey of the American people from political independence toward knowledgeable self-determination in its most fundamental and democratic sense.

A NATIONAL POLICY FOR THE ENVIRONMENT

Introduction

This report is based upon the assumption that the threat of environmental mismanagement and deterioration to the security and welfare of the United States has been established. (See app. A.) There are differences of opinion as to the security and relative urgency of various hazards to the environment. Some scientists believe that man's environmental relationships have reached a point of crisis; others do not see the condition of the environment generally as having yet reached a critical stage. But there is, nevertheless, general consensus throughout most walks of life that a serious state of affairs exists and that, at the least, it is approaching a crisis of national and international proportions. The focus of this report is therefore on national policy to cope with environmental crisis, present or impending, rather than with documenting the facts relating to environmental deterioration.

Part I. Requirements for policy effectiveness

Effective policy is not merely a statement of things hoped for. It is a coherent, reasoned statement of goals and principles supported by evidence and formulated in language that enables those responsible for implementation to fulfill its intent. This section of the report describes some of the interrelating conditions that appear necessary to an effective national policy for the environment. The discussion will be developed under the following five headings:

- (1) Understanding Imminent Need.
- (2) Recognizing Costs.
- (3) Marshaling Relevant Knowledge.
- (4) Facilitating Policy Choice.
- (5) National Policy and International Cooperation.

1. Understanding Imminent Need

An effective and enlightened environmental policy is a response to the needs of man in relation to his environment. The response may involve the control of man's behavior on behalf of the larger interests of mankind where those interests are clearly perceived and widely held. Man's relationships with his environment are, of course, multitudinous and complex. Control by governments, by international organizations, or by other institutions, cannot feasibly be extended to every aspect of the environment nor to more than a fraction of the actual points of impact of individual man upon his environment. Policy effectiveness consequently depends very largely upon the internalization, in the human individual, of those understandings, values, and attitudes that will guide his conduct in relation to his environment along generally beneficial lines. A major requisite of effective environmental policy is therefore intelligent and informed individual self-control.

There is substantial evidence to indicate that large numbers of Americans perceive the need for halting the spread of environmental decay. It is also evident, however, that few recognize the connection between the conditions which they deplore and the absence of any explicit and coherent national policy on behalf of environmental quality.

Man is confronted by a circumstance that is totally new in human history. He has rapidly completed the occupancy of the easily inhabitable areas of the earth while his numbers have increased at an exponential and accelerating rate. Simultaneously, un-

precedented economic power and advances in science and technology have permitted man to make enormously increased demands upon his environment. In no nation are these coincidental developments more dramatically evident than in the United States. And yet many Americans find it difficult to understand why sound environmental management should now suddenly become "everybody's business." Long-accepted ways of thinking and acting in relation to one's surroundings are now being called into question. Understanding of what has happened can be helped by a simple exercise in arithmetic.

At the time of the American Revolution the total human population of the present-day continental United States could hardly have exceeded 3 million individuals. The demands of the American Indian and European colonists on the Atlantic seaboard were very light when contrasted with current exactions. By the close of the 20th century, if the population of this same area approximates 300 million, the daily stress man places on the environment will, on the basis of mere numbers, have increased 100 times over. Technology has alleviated some forms of stress (as on forests for fuel or on wildlife for food), but it has greatly increased environmental stress in general. The net result has been enormously increased demands upon the environment in addition to the increase in population. Calculation of an average per man-year stress upon the environment, estimated from A.D. 1700 to 2000, and adjusted for technological factors at particular historical periods, would be a powerful persuader of the need for a sensitive and forward-looking national environmental policy. The exponential increase in the pressure of man and his technology upon the environment, particularly since World War II, is the major cause of the need for a national environmental quality effort.

The rate at which the Nation has changed since 1890 when the frontier officially ceased to exist has been unexceeded by any other social transformation in history. Scarcely one long generation removed from the last days of the frontier, America has become an urbanized and automated society with publicly institutionalized values in social security, labor relations, civil rights, public education, and public health that would have been utopian less than a century ago. In the absence of a system for adequately assessing the consequences of technological change, who could have predicted the many ways in which applied science would transform the conditions of American life? Powerful new tools applying the discoveries in chemistry, physics, biology, and the behavioral sciences were put to work for improving the health, wealth, comfort, convenience, and security of Americans. Utilizing the vast natural resources of the American environment, the world's highest standard of living was achieved in an amazingly short period of time. Unfortunately, our productive technology has been accompanied by side effects which we did not foresee. Experience has shown us that there are dangers as well as benefits in our science-based technology. It is now becoming apparent that we cannot continue to enjoy the benefits of our productive economy unless we bring its harmful side effects under control. To obtain this control and to protect our investment in all that we have accomplished, a national policy for the environment is needed.

Although Americans have enjoyed prodigious success in the management of their economy they have been much less successful in the management of natural resources. As a people we have been overly optimistic, careless, and at times callous in our exactions from the natural environment. The history of soil exhaustion and erosion, of cut-over forest lands, of slaughtered wildlife document a few of our early failures to maintain the restorative capacities of our natural re-

sources. Fortunately many of these early failures have been corrected or are now being remedied. But our exploding population and technology have created more subtle dangers, less easily detected and more difficult to overcome.

These more recent dangers have been documented in testimony before the Congress and in the reports of scientific committees (app. A). They confront us with the possibility that the continuation of present trends affecting, for example, (a) the chemistry of the air, (b) the contamination of food and water, (c) the use of open land and living space, and (d) the psychophysical stress of crowding, noise and interpersonal tension on urban populations, may infinitely degrade the existence of civilized man before the end of this century. These are not the exaggerated alarms or unsubstantiated predictions of extremists; they are sober warnings of competent scientists supported by substantial demonstrable evidence. The practical course is, therefore, to forestall these threats before they have outgrown our technical, economic, legal, and political means to overcome them. Fortunately, we still have a choice in this matter. We still have a relatively wide range of alternatives available in managing the environment.

It may be contended that the problems of the environment must wait until more urgent political issues are resolved. Problems of national security, poverty, health, education, urban decay, and underdeveloped nations have just and appropriate claims for priority in national attention and public expenditure. Yet many aspects of these problems involve environmental policy. Three of the most urgent—the slums and ghettos of the great cities; increasing disability and death from diseases induced by environmental factors (for example, cancer, emphysema, mental disorders); and the decline and decay of rural areas (for example, in Appalachia) furnish persuasive reasons for a national environmental policy. Before billions of dollars are spent in attempts to alleviate these social ills, it would be wise to be sure that environmental factors causing or accompanying these conditions are properly identified and remedied. We may otherwise worsen the state of our economy and environment without solving the underlying social problems.

In summary, within the present generation the pressures of man and technology have exploded into the environment with unprecedented speed and unforeseen destructiveness. Preoccupied with the benefits of an expanding economy the American people have not readily adopted policies to cope with the attendant liabilities. Popular understanding of the need to forestall the liabilities in order to preserve the benefits is now becoming widespread, and provides the political rationale for the development of a national policy for the environment, and for a level of funding adequate to implement it.

2. Recognizing Costs

The nation long ago would probably have adopted a coherent policy for the management of its environment, had its people recognized that the costs of overstressing or misusing the environment were ultimately unavoidable. This recognition was arrived at belatedly for several reasons: *First*, environmental deterioration in the past tended to be gradual and accumulative, so that it was not apparent that any cost or penalty was being exacted; *second*, it seemed possible to defer or to evade payment either in money or in obvious loss of environmental assets; *third*, the right to pollute or degrade the environment (unless specific illegal damage could be proved) was widely accepted. Exaggerated doctrines of private ownership and an uncritical popular tolerance of the side effects of economic production encouraged the belief that costs projected onto the environment were costs that no one had to pay.

This optimistic philosophy proved false as many regions of the Nation began to run out of unpolluted air and water, as the devastation of strip mining impoverished mining communities, as the refuse of the machine age piled up in manmade mountains of junk, as the demand for electricity and telecommunications arose to festoon the Nation with skeins of cables strung from forests of poles, and as the tools of technology increasingly produced results incompatible with human well-being. Under the traditional "ground rules" of production, neither enterprise nor citizen was called upon to find alternatives or to pay for measures that would have prevented or lessened ensuing loss of environmental quality. Payment continued to be exacted in the loss of amenities the public once enjoyed, and in the costs required to restore resources to usefulness and to support the public administration that environmental deterioration entailed. When the public began to demand legislation to control pollution and to prevent environmental decay, the reaction of those involved in environment degrading activities was often one of counter-indignation. Businessmen, municipalities, corporations and property owners were confronted with costs in the form of taxes or the abatement of nuisances that they had never before been called upon to pay. They were now about to be penalized for behavior which America had long accepted as normal.

What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment. The policy question is not whether payment shall be made; it is when payment shall be made, in what form, and how the costs are to be distributed. Hard necessity has made evident the need for payment to obtain air and water of quality adequate to meet at least minimum standards of health and comfort. Scientific knowledge and rising levels of amenity standards have added to public expectation that protection against environmental damage will be built into the products and production costs of manufacturers.

Lack of a national policy for the environment has now become as expensive to the business community as to the Nation at large. In most enterprises a social cost can be carried without undue burden if all competitors carry it alike. For example, industrial waste disposal costs can, like other costs of production, be reflected in prices to consumers. But this becomes feasible only when public law and administration put all comparable forms of waste-producing enterprises under the same requirements. Moreover it has always been an advantage to enterprise to have as clear a view as possible of future costs and requirements. When public expectations and "ground rules" change, however, as they have been changing recently on environmental quality issues, the uncertainty of resulting effects upon business costs, and the necessity for adjustment to unexpected expenses and regulations, is disconcerting and hardly helpful.

A national policy for the environment could provide the conceptual basis and legal sanction for applying to environmental management the methods of systems analysis and cost accounting that have demonstrated their value in industry and in some areas of government. It has been poor business, indeed, to be faced with the billions of dollars in expenses for salvaging our lakes and waterways when timely expenditures of millions or timely establishment of appropriate policies would have largely preserved the amenities that we have lost and would have made unnecessary the cost of attempted restoration. A national system of environmental cost accounting expressed not only in economic terms but also reflecting life-sustaining and amenity values in the form of environmental quality indicators could provide the Nation with a much clearer picture than it now has

of its environmental condition. It would help all sectors of American society to cooperate in avoiding the overdrafts on the environment and the threat of ecological insolvency that are impairing the national economy today.

It is not only industrial managers and public officials who need to recognize the unavoidable costs of using the environment. It is, above all, the individual citizen because he must ultimately pay in money or in amenities for the way in which the environment is used. If, for example, he likes to eat lobster, shrimp or shellfish, the citizen must reconcile himself to either paying dearly for these products or indeed finding them unobtainable at any price, unless we find ways to preserve America's coastline and coastal waters. The individual citizen may also have to pay in the cost of illness and in general physical and psychological discomfort. And these costs, of course, are not incurred voluntarily.

In the interest of his welfare and of his effectiveness as a citizen the individual American needs to understand that environmental quality can no longer be had "for free." Recognition of the inevitability of costs for using the environment and of the forms which these costs may take is essential to knowledgeable and responsible citizenship on environmental policy issues.

In summary, the American people have reached a point in history where they can no longer pass on to nature the costs of using the environment. The deferral of charges by letting them accumulate in slow attrition of the environment, or by debiting them as loss of amenities will soon be no longer possible. It is no longer feasible for the American people to permit it. The environmental impact of our powerful, new, and imperfectly understood technology has often been unbelievably swift and pervasive. Specific effects may prove to be irreversible. To enjoy the benefits of technological advance, the price of preventing accidents and errors must be paid on time. From now on "pay-as-you-go" will increasingly be required for insuring against the risks of manipulating nature. This means merely that provision must be made for the protection, restoration, replacement, or rehabilitation of elements in the environment before, or at the time, these resources are used. Later may be too late.

3. Marshaling Relevant Knowledge

For many years scientists have been warning against the ultimate consequences of quiet, creeping, environmental decline. Now the decline is no longer quiet and its speed is accelerating. The degradation is destroying the works of man as well as of nature. We are confronted simultaneously with environmental crisis in our cities and across our open lands and waters. The crisis of the cities and the crisis of the natural and rural environments have many roots in common, although they may erroneously be viewed as extraneous to one another, or even as competitive for public attention and taxation. In fact, both crises stem from an ignorance of and a disregard for man's relationship to his environment.

An effective environmental policy in the past might have prevented and would certainly have focused attention upon the wretched conditions of urban and rural slums. It would surely have stimulated a search for knowledge that could have helped to correct and prevent degraded conditions of living. It is now evident that the fabric of American society can no longer contain the growing social pressure against slum environments. Today, remedial measures are being forced by social violence and by the social and economic costs of environmental decay; but it is not certain that the remedies take full account of the nature of the ailment. The pressure upon the urban environment is acute and overt; it is dramatized, it has obvious political implications, and it hurts.

Conversely, the degradation of natural and rural environments is more subtle. Stress may reach the point of irreparable damage before there is full awareness that a danger exists. What is needed therefore is a systematic and verifiable method for periodically assessing the state of the environment and the degree and effect of man's stress upon it, as well as the effect of the environment and environmental change on man.

One would expect to be able to look to the universities and to the great schools and institutes of agriculture, engineering, and public health as constituting an environmental intelligence system. Unfortunately however, no such system exists. Man-environment relationships per se have seldom been studied comprehensively. Various disciplines have concerned themselves with particular aspects of environmental relationships. Geographers, physiologists, epidemiologists, evolutionists, ecologists, social and behavioral scientists, historians, and many others have in various ways contributed to our knowledge of the reciprocal influences of man and environment. But the knowledge that exists has not been marshaled in ways that are readily applicable to the formulation of a national policy for the environment. At present, there are many gaps in our knowledge of the environment to which no discipline has directed adequate attention.

It should not be surprising that there is a lack of organized knowledge relating to environmental relationships. Society has never asked for this knowledge, and has neither significantly encouraged nor paid for its production. By way of contract, public opinion has supported the costs of high-energy physics as reasonable, even though direct and immediate applications to public problems are relatively few. But public opinion has been guided in part by the judgment of the scientific community and of the leaders of higher education. Only recently have the scientific community and the universities begun to interest themselves institutionally in man-environment relationships, perceived in the totality in which they occur in real life.

Environmental studies in the universities are as yet largely focused on separate phases of man-environment relationships. This, in itself, is not undesirable; it is in fact necessary to obtain the degree of specialization and intensive study that many environmental problems require. The inadequacy lies in the lack of means to bring together existing specialized knowledge that would be relevant to the establishment of sound policies for the environment. There is also need for greatly increased attention to the study of natural systems, to the behavior of organisms in relation to environmental change, and to the complex and relatively new science of ecology. There is need for synthesis as well as for analysis in the study of man-in-environment.

A reciprocal relationship exists between the interests of public life and the activities of American universities. Public concern with a social problem when expressed in terms of public recognition or financial support, stimulates related research and teaching in the colleges and universities. Research findings and teaching influence the actions of government and the behavior of society. This relationship has been exceptionally fruitful in such fields as agriculture, medicine, and engineering. It has not, as yet, developed strength in the field of environmental policy and management. Nevertheless a beginning is being made in some colleges and universities, and in a number of independent research organizations and foundations, to provide a more adequate informational base for environmental policy.

Recognition of the need for a more adequate informational base for environmental policy has not been confined to academic institutions or to government. Speaking to

the 1967 plenary session of the American Institute of Biological Sciences, Douglas L. Brooks, president of the Traveler's Research Center, declared that " * * * We need to recognize environmental quality control as a vital social objective and take steps to establish the field of environmental management as a new cross-disciplinary applied science professional activity of extraordinary challenge and importance."

To date, action by Government to assist the marshaling of relevant knowledge has been uncoordinated and inconstant. With the exception of defense and space-related technical investigations, the amount of money made available for environmental research has been relatively meager and has been allocated largely along conventional disciplinary lines. Specialized aspects of research on man-environment relationships have been well funded by the Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration. But much of this work is highly technical and is appropriately directed toward problems encountered in the missions of these agencies. More broadly based are the interests of the National Science Foundation, but the Foundation's resources for funding academic research relating to environmental policy are small. For a brief period the most promising source of support for the kind of knowledge needed for environmental policy effectiveness was the U.S. Public Health Service. In the mid-1960's, the Service began to assist the establishment of broadly based environmental health science centers in selected universities. But a shift of emphasis in the Public Health Service brought this effort to an untimely standstill. The National Institutes of Health fund a significant body of health-related environmental research, but little of it appears to be policy-related.

The Science Information Exchange of the Smithsonian Institution, surveying the general field of Government-funded research for the Senate Interior and Insular Affairs Committee, found (not unexpectedly) that there were heavy concentrations of research where Government funding was heaviest—notably in physical science and the biomedical aspects of the environment. Government-funded research of broadly cross-disciplinary or policy-oriented character appeared to be almost negligible in volume and in funding. It is probable that policy problems are investigated in the course of substantive research; but it is evident that we have not yet made a conscious decision to organize and fund the effort which students of environmental policy and management see as the necessary first step to an adequate environmental information system.

To provide facilities and financial support for new research on natural systems, environmental relationships and ecology on an independent, but publicly financed basis, a National Institute of Ecology has been proposed by a group of scientists associated with the Ecological Society of America and assisted by the National Science Foundation. The functions proposed for this institute are worth restating in brief, as indicative of the contribution that ecologists would like to make toward strengthening the Nation's capacity to cope with its environmental problems. Defining ecology to be " * * * the scientific study of life-in-environment," the proponents of a National Institute of Ecology state that it is needed (1) to conduct large-scale multi-disciplinary field research beyond the capacities of individual researchers or research institutions, (2) to provide a central ecological data bank on which ecologists and public agencies can draw, (3) to coordinate and strengthen activities of ecologists in relation to ecological issues in public affairs, and to promote the infusion of ecology into general education at all levels, and (4) to perform advisory services for government and industry on action programs affecting the environment. The principal

purpose of the proposed institute is not, however, to study public policy or education, but to do more and better ecology.

These efforts and proposals, and many others unreported here, are constructive contributions to the task of marshaling the knowledge needed for an effective national policy for the environment. They do not, however, add up to a national information system, nor do they necessarily present information and findings relative to the environment in forms suitable for review and decision by the Nation's policymakers. The ecological research and surveys bill introduced by Senator Gaylord Nelson in the 89th Congress would have established a national research and information system under the direction of the Secretary of the Interior. Similar proposals have been incorporated in a number of bills introduced in the 90th Congress, including S. 2805 by Senators Jackson and Kuchel. (See app. B.) An important difference between the proposals before the 90th Congress and the efforts and proposals described in the preceding paragraphs is that in pending legislation the knowledge assembled through survey and research would be systematically related to official reporting, appraisal, and review. The need for more knowledge has been established beyond doubt. But of equal and perhaps greater importance at this time is the establishment of a system to insure that existing knowledge and new findings will be organized in a manner suitable for review and decision as matters of public policy.

In summary, to make policy effective through action, a comprehensive system is required for the assembly and reporting of relevant knowledge; and for placing before the President, the Congress, and the people, for public decision, the alternative courses of action that this knowledge suggests. With all its great resources for research, data processing, and information transmittal, the United States has yet to provide the financial support and operational structure that would permit these resources to implement a public policy for the environment.

4. Facilitating Policy Choice

The problem of organizing information for purposes of policy-oriented review leads directly to the need for a strategy of policy choice. Environmental policymaking presents certain organizational difficulties. It must draw heavily upon scientific information and yet it embraces important considerations and issues that are extraneous to science policy. Insofar as environmental policy is dependent upon scientific information, it is handicapped by the insufficiency of the research effort and the inadequacies of information handling described in the preceding paragraphs. In a review of U.S. science policy by the Organization for Economic Cooperation and Development, the European examiners cited environmental problems as one of the areas of inquiry that American science was not well organized to attack. The criticism was directed not at the accomplishments of American science in support of major technical undertakings; it was instead concerned with the absence of a system and a strategy adequate to deal with the problems of the environment, and of social relationships and behavior, on a scale which their comprehensive and complex subject matters require.

Insofar as science is an element in environmental policymaking, the Office of Science and Technology affords a mechanism for enlisting the resources of the scientific community, for establishing study groups and advisory panels on specific issues, and for presenting their recommendations to the President. In the coordination of scientific aspects of environmental policy, the Federal Council of Science and Technology, in association with the Office of Science and Technology, is the more general of several coordinative or advisory bodies in the executive branch. (See app. C.) The establishment of special councils for marine resources and

engineering development, for water resources, for recreation and natural beauty, among other purposes, complicates to some extent the function of policy advice. None of these bodies are constituted to look at man-environment relations as a whole; none provide an overview; none appear fully to answer the need for a system to enable the President, the Congress, and the electorate to consider alternative solutions to environmental problems.

Possible answers to the need for a system to assist national policy choice may be found in legislative proposals to create councils on environmental quality or councils of ecological advisers. These councils are conceived as bridges between the functions of environmental surveillance, research, and analysis, on the one hand, and the policymaking functions of the President and the Congress on the other. The particular and indispensable contribution of the Council to environmental policy would be twofold. The first would be, using S. 2805 for purposes of illustration, " * * * to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation." Most proposals call for a report on the state of the environment from the Council to the President and from the President to the Congress. S. 2805, for example, states that the Council shall provide advice and assistance to the President in the formulation of national policies, and that it shall also make information available to the public. The bill further provides that " * * * The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President."

From this enumeration of the Council's functions several inferences may be drawn. *First*, the proposed environmental advisory councils are not science advisory bodies. They are instructed in pending legislative proposals to take specified factors, including the scientific, into account in the course of their analysis and recommendations on environmental policy issues. *Second*, the councils are not primarily research or investigating bodies even though they have important investigatory functions. They are essentially policy-facilitating bodies. *Third*, their functions are those of analysis, review, and reporting. Their nearest functional counterpart is probably the Council of Economic Advisers. *Fourth* and finally, councils on the environment, such as proposed by some of the measures listed in appendix B, must be located at the highest political levels if their advisory and coordinative roles are to be played effectively. For this reason the proposals have generally established the Council in the Executive Office of the President. However, the Technology Assessment Board proposed by Representative Emilio Q. Daddario, which would perform many functions similar to those of the environmental councils, would be an independent body responsible primarily to the Congress.

This brings the discussion to the role of the Congress in facilitating policy choice. Some have found the formal committee structure of the Congress to be poorly suited to the consideration of environmental policy questions. Senator Edmund Muskie has proposed a Select Committee of the Senate on Technology and the Human Environment to facilitate consideration of related environmental issues that would normally be divided among a number of Senate committees. Others have proposed that a Joint Committee on the Environment, representative of the principal committees of the House and the Senate concerned with environmental policy issues, should be established to review a proposed annual or biennial report of the President on the

state of the environment. Many Congressmen, however, feel that the policy of establishing new committees to deal with each new problem area should be resisted and that the present committees should assume their legislative and oversight responsibilities in this area. Meanwhile the informal and practical operations of legislative business permits the present standing committees to function with remarkable speed and dexterity where the will to legislate exists.

In summary, policy effectiveness on environmental issues will require some form of high-level agency in the executive branch for reviewing and reporting on the state of the environment. No existing body seems appropriate for this function. To meet this need, and under various names, a council for the environment has been suggested and has been incorporated in numerous legislative proposals. Provision for a policy assisting body in the executive branch suggests to some the desirability of a comparable committee in the Congress.

5. National Policy and International Cooperation

In his address to the graduating class at Glassboro State College on June 4, 1968, President Lyndon B. Johnson called for the formation of a permanent "international council on the human environment." The ecological research and surveys bill first offered in 1965 by Senator Gaylord Nelson authorized participation by the United States with "other governments and international bodies in environmental research." Similarly, S. 2805 and other pending measures authorize " * * * environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations * * *."

These and other expressions of the willingness and intent of the United States to cooperate with other nations and with international organizations on matters of environmental research and policy reinforce the argument for a national environmental policy. Although the United States could cooperate internationally on many specific issues without a national policy, it could do so more effectively and comprehensively if its own general position on environmental policy were formally and publicly enunciated.

The United States, as the greatest user of natural resources and manipulator of nature in all history, has a large and obvious stake in the protection and wise management of man-environment relationships everywhere. Its international interests in the oceanic, polar, and outer space environments are clear. Effective international environmental control would, under most foreseeable contingencies, be in the interest of the United States, and could hardly be prejudicial to the legitimate interests of any nation. American interests and American leadership would, however, be greatly strengthened if the Nation's commitment to a sound environmental policy at home were clear.

Part II. Questions of implementation

What significance would adoption of a national policy for the environment hold for the future of government in the United States? At the least, it would signify a determination by the American people to assume responsibility for the future management of their environment. It would not imply an all-inclusive Federal or even governmental environmental administration. The task to too widespread, multitudinous, and diverse to be wholly performed by any single agency or instrumentality. There are important roles to be played at every level of government and in many sectors of the nongovernmental economy. Nevertheless a new policy, and particularly a major one, is certain to arouse some apprehensions.

In the Federal agencies, among the committees of the Congress, in State governments, and among businesses whose activities impinge directly upon the environment and natural resources, there would be understandable concern as to what changes for them might be implicit in a national policy for the environment. The objection is certain to be raised that Government is already too large and that there are already too many agencies trying to manage the environment. "Please—not one more," will be an oft-repeated plea. These fears, however, are largely those that always accompany a new public effort regardless of its purpose, direction, or ultimate benefit. Very few people oppose, in principle, public action on behalf of quality in the environment. It is implementation that raises questions and arouses apprehension.

It would be unconvincing to assert that no interest, enterprise, or activity will be adversely affected by a national environmental quality effort. There is no area of public policy that does not impose obligations upon, nor limit the latitude for action of important sectors of society. But while activities harmful to man's needs and enjoyments in the environment must necessarily be curbed, it is also true that all Americans, without exception, would benefit from an effective national environmental policy. In brief, although all would benefit, a relative few might be required to make adjustments in business procedures or in technological applications.

For the foregoing reasons, a report on the need for a national policy for the environment would be incomplete if it did not raise, at least for the purposes of discussion, some major questions that the establishment as such a policy would imply. These are mainly questions of how a decision to establish a national policy would be implemented in practice. They are questions to be answered by the Congress and by the President. But in their answers, the policy-determining branches of Government will need to consider a number of issues subsidiary to those major questions.

To better illustrate the issues involved in these questions, reference will be made to S. 2805. No claim of special priority is implied by these references. Many of the bills now pending on this issue have similar provisions. Any one bill might serve as well as any other.

1. What Are the Dimensions of an Environmental Policy and How Are They Distinguishable From Other Areas of National Concern?

This is the fundamental question. It would be unreasonable to expect that its metes and bounds could be defined more clearly than those of the more familiar policy areas of national defense, foreign relations, civil rights, public health, or employment security. The field of definition can be narrowed, however, by identifying those concepts with which it might be confused but from which it should be clearly distinguished.

Environmental policy, broadly construed, is concerned with the maintenance and management of those life-support systems—natural and made made—upon which the health, happiness, economic welfare, and physical survival of human beings depend. (See app. D.) The quality of the environment, in the full and complex meaning of this term, is therefore the subject matter of environmental policy. The term embraces aspects of other areas of related policy or civic action, and it is important that environmental policy and environmental quality, in the broad sense, be distinguished from these related but sometimes dissimilar policies or movements.

Environmental policy should not be confused with efforts to preserve natural or historical aspects of the environment in a perpetually unaltered state. Environmental quality does not mean indiscriminate preservationism, but it does imply a careful ex-

amination of alternative means of meeting human needs before sacrificing natural species or environments to other competing demands.

Environmental quality is not identical with any of the several schools of natural resources conservation. A national environmental policy would however, necessarily be concerned with natural resource issues. But the total environmental needs of man—ethical, esthetic, physical, and intellectual, as well as economic—must also be taken into account.

Environmental policy is not merely the application of science and technology to problems of the environment. It includes a broader range of considerations. For this reason S. 2805, in proposing a Council on Environmental Quality, does not stipulate that its five members be scientists, although it obviously would not preclude scientists among them.

One of the few differences in emphasis among the environmental policy bills now before the Congress has to do with the role of ecologists and of the science of ecology in the shaping of national policy. The need for a greatly expanded program of national assistance for ecological research and education cannot be doubted by anyone familiar with present trends in the environment. The science of ecology can provide many of the principal ingredients for the foundation of a national policy for the environment. But national policy for the environment involves more than applied ecology, it embraces more than any one science and more than science in the general sense.

The dimensions of environmental policy are broader than any but the most comprehensive of policy areas. The scope and complexities of environmental policy greatly exceed the range and character of issues considered, for example, by the Council of Economic Advisers. One may therefore conjecture, without derogation to the unquestionable importance of the economic advisory function, that a council on the environment would, in time, perhaps equal and even exceed in influence and importance any of the specialized council bodies now in existence. For this reason its membership should be broadly representative of the breadth and depth of national interests in man-environment relationships. The ultimate scope of environmental policy, and the relationship of a high-level implementing council to existing councils, commissions, and advisory agencies, are not questions that can be, or need to be, decided now, nor even at the time that a national policy may be adopted. The important consideration is to develop a policy and to provide a means that will permit its objectives to be considered and acted upon by the Congress, the President, and the executive agencies. If we wait until we are certain of the dimensions of environmental policy and of how it will relate to other responsibilities and functions of Government, our assurance will be of no practical value. It will have come too late to be of much help.

2. Upon What Considerations and Values Should a National Environmental Policy Be Based?

If it is ethical for man to value his chances for survival, to hope for a decent life for his descendants, to respect the value that other men place upon their lives, and to want to obtain the best that life has to offer without prejudicing equal opportunities for others, then the cornerstone of environmental policy is ethical. That cornerstone is the maintenance of an environment in which human life is not only possible, but may be lived with the fullest possible measures of personal freedom, health, and esthetic satisfaction that can be found. No government is able to guarantee that these values can be realized, but government is able to assist greatly in the maintenance of

an environment where such values are at least realizable.

Ethics, like justice, is not easily quantifiable, yet few would argue that society should not seek to establish justice because justice cannot be adequately defined or quantified. Environmental policy is a point at which scientific, humanistic, political, and economic considerations must be weighed, evaluated, and hopefully reconciled. Hard choices are inherent in many policy issues. The sacrifice of a plant or animal species, for example, or of a unique ecosystem ought not to be permitted for reasons of short-run economy, convenience, or expediency. The philosophy of reverence for life would be an appropriate guiding ethic for a policy that must at times lead to a decision as to which of two forms of life must give way to a larger purpose.

The natural environment has been basically "friendly" toward man. Man's survival is dependent on the maintenance of this environment, but not upon the unaltered operation of all of its myriad components. Pathogenic micro-organisms, for example, are not revered by man. Protection against them is a major task of environmental health and medicine. But even here, respect for the incredible variety, resilience, and complexity of nature is a value that environmental policy would be wise to conserve. Frontal attacks upon man's environmental enemies or competitors, identified as pathogens or as "pests," have miscarried too often to encourage the thought that direct action on threats in the environment are always wise, economical, or effective.

The range of values to be served by environmental policy is broad and an indication of how its scope might be defined may be obtained from the provisions of S. 2805 which specify the considerations to which the Council on Environmental Quality should respond: "Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of this Nation."

The assessment and interpretation of these needs and interests is obviously a function that the members of the Council would have to perform to the best of their ability. No more than in the election of legislators or in the appointment of judges, would it be possible to stipulate how these or other values should be understood and weighted. The reputations and characters of the individuals appointed to the Council would offer the best indication of how the specifications of the law might be construed. But the findings and conclusions of the Council need not be wholly subjective or based upon speculative data. The methods of systems analysis, cybernetics, telemetry, photogrammetry, electronic and satellite surveillance, and computer technology are now being applied to a wide range of environmental relationships. New statistical and computerized simulation techniques are rapidly bringing ecology from what has been described as "one of the most unsophisticated of the sciences," to what may become one of the most complex, intellectually demanding, and conceptually powerful of the sciences.

In brief, the values and considerations upon which a national environmental policy should be based should be no less extensive than the values and considerations that men seek to realize in the environment. In the interpretation of these values and considerations science can play a role of great importance. But neither science, nor any other field of knowledge or experience, can provide all of the criteria upon which environmental policies are based. The full range of knowledge and the contributions of all of the scientific and humanistic disciplines afford

the informational background against which value judgments on environmental policy may most wisely be made.

3. How Should the Information Needed for a National Environmental Policy Be Obtained and Utilized?

Of all major questions on the implementation of environmental policy, this one is probably the least difficult. It is in part a technical question; yet to describe it as technical is not to suggest that it can be easily answered. There is no present system for bringing together, analyzing, collating, digesting, interpreting, and disseminating existing information on the environment. There is accordingly no reliable way of ascertaining what aspects of man-environment relationships are unresearched or hitherto unidentified. The question is less difficult than others primarily because it is clearly possible to design an information system, to fund its implementation, and to put it into effect. The particular form in which the data should finally appear, and the method of its subsequent disposition are more problematic.

Title I of S. 2805, and other measures proposed on behalf of a national environmental policy, make provision for the functions of information gathering, storage and retrieval, dissemination, and for enlarging the available information through assistance to research and training. The detailed provisions of S. 2805 on an environmental information system are numerous and need not be repeated here. The significant feature of these provisions is that they create an information system designed and intended to serve the policymaking processes of government.

Most of the environmental quality bills place this information function under the direction of the Secretary of the Interior. But they relate its data-gathering functions to those of other Federal agencies and they provide for the transmittal of its findings to a high-level reviewing body and to the President and the Congress. In the provision for organizing environmental information into a form that is usable for policy formation, this proposal represents a step toward greater rationality in government and toward the more effective use of modern information systems and technology to serve public purposes.

4. How should a national environmental policy be implemented and periodically reviewed for refinement or revision?

Some innovation and restructuring of policy-forming institutions will be required to achieve the purposes of a national environmental policy. Our present governmental organization has not been designed to deal with environmental policy in any basic or coherent manner. (See app. C.) The extent to which governmental reorganization may be necessary cannot be determined absolutely in advance of experience. But it does seem probable that some new facility at the highest levels of policy formulation will be needed to provide a point at which environmental policy issues cutting across the jurisdictional lines of existing agencies can be identified and analyzed, and at which the complex problems involved in man's relationships with his environment can be reduced to questions and issues capable of being studied, debated, and acted upon by the President, the Congress, and the American people. As we have seen, some of the bills on environmental policy now pending in the Senate and the House of Representatives (see app. B) provide a point of focus for this new area of policy through a high-level board or council. Many of these bills provide for periodic reports on the state of the environment to the policy-determining institutions of the Nation—the President and the Congress—and, as these reports are matters of public record, to the American people who must be the final judges of the level of environmental quality they are willing to support.

As noted in the preceding paragraphs, improved facilities for the finding, analysis and presentation of pertinent factual data are needed. A vast amount of data is now collected by Federal agencies and by private research organizations; but this data is uneven in its coverage of the various aspects of environmental policy. For example, there is a superabundance of technical information on some aspects of environmental pollution, but comparatively little research on the social and political aspects of environmental policy. Much of the data now available is in a form unsuitable for policy purposes. The sheer mass of data, much of it highly technical on certain major environmental problems, is a serious impediment to its use. For this reason the legislative proposals on national environmental policy provide a system for reinforcing, supplementing, and correlating the flow of information on the state of the environment.

These two major needs, (a) a high-level reviewing and reporting agency and (b) an information gathering and organizing system, are the essential structural innovations proposed in bills now before the Congress for implementing a national environmental policy. Would these additions to the present structure of government be sufficient to implement a national environmental quality program and how in particular would the proposed high-level Council be related to other agencies in the federal structure of government?

New policies and programs imply structures appropriate to their functions and may call for new relationships among existing agencies. To construct a comprehensive structure for environmental administration will require time, and meanwhile the need for leadership in informing the people and in formulating policy recommendations and alternatives grows more urgent. It is for this reason that some of the measures which have been introduced propose that a Council for Environmental Quality be established in the Executive Office of the President. In effect, the Council would be acting as agent for the President. It would need information from the various Federal departments, commissions, and independent agencies that, under prevailing organization, it could not as easily obtain if it were located at a level coequal or subordinate to the divisions of Government whose programs it must review. Reinforcing this consideration is the distribution of environment-affecting activities among almost every Federal agency.

Objection may be raised that there are already too many councils and committees established in the Executive Office of the President. Some students of public administration argue that a simplification of structure and a clarification of existing responsibilities should take precedent over any new programs or agencies. The answer to this objection lies in an assessment of relative priorities. Is each of the councils or comparable agencies now established in the Executive Office of the President more important, of greater urgency, or of more direct bearing upon the public welfare, than the proposed Council on Environmental Quality? What criteria indicate how many conciliar bodies are "too many"? These questions are not merely rhetorical. Although they cannot be answered here, they are obviously germane to the issue of governmental organization and to the way in which national environmental policy is formulated and made effective.

A strong case can be made of a major restructuring of the Federal departments in which public responsibility for the quality of the environment would, like defense or foreign relations, become a major focus for public policy. Proposals tending in this direction and chiefly affecting the Department of the Interior have been made over several decades. A prominent news magazine took up this line of reasoning in a recent

editorial declaring that " * * the Secretary of the Interior ought to be the Secretary of the Environment." But a major restructuring of functions in the Federal administrative establishment cannot be accomplished easily or rapidly. Such a development would be most plausible as a part of a more general restructuring of the executive branch. The multiplication of high-level councils and interagency committees may indicate that a restructuring is needed. (See app. C.) Some of the complexity of present arrangements for policy formulation and review reflects the confusion often attending a transition from one set of organizing concepts to another.

Among the concepts that have been proposed to reduce the burden of the Presidential office and to provide a more simple and flexible administrative structure, is that of the "superdepartment." One of these agencies already exists as the Department of Defense. A Department of the Environment might be another. The substance and character of the organizational changes that superdepartments might imply are germane to a discussion of environmental administration, but they require no further exploration in this report beyond the following three points: *First*, they would be fewer in number than present departments, probably no more than seven to nine; *second*, they would be oriented broadly to services performed for the entire population, and *third*, they would be planning and coordinative rather than directly operational, assuming, to some degree, certain of the tasks that now fall heavily on the Executive Office of the President.

There may be another answer to the need for a more effective review and coordination of related functions in diverse agencies in the concept of "horizontal authority" or matrix organization. This organizational arrangement has been employed in multifunctional, cross-bureau, projects in the Department of Defense and in the National Aeronautics and Space Administration. Under a temporary structure for project management, it structures across normal hierarchical lines and working relationships among the necessary personnel and skills. The concept might be applicable to interagency attack upon specific problems of environmental policy.

Review of national policy, and revision if and when needed, are functions that the Congress performs for all major policies of Government. The device of an annual or biennial report from the President to the Congress on the state of the environment offers the logical occasion for an examination by the Congress, not only of the substance of the President's message, but of national policy itself. In many respects, the transmission of an annual report on the state of the environment accompanied by a clear and concise statement of the Nation's goals, needs, and policies in managing the environment could attain many of the ends sought by those who propose reorganization.

SUMMATION

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelating aspects of man's dependence upon his environment. Through science, we now understand, far better than our forebears could, the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now costing us dearly, not merely in opportunities foregone, in impairment of health, and

in discomfort and inconvenience, but in a demand upon tax dollars, upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deterioration will run. The cost of remedial action and of getting onto a sound basis for the future will never be less than it is today.

Natural beauty and urban esthetics would be important byproducts of an environmental quality program. They are worthy public objectives in their own right. But the compelling reasons for an environmental quality program are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life-sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaptation to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers and in one form or another must now pay directly the costs of obtaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of an environmental quality program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner we may find ourselves confronted, even in this generation, with environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

EXHIBIT 2

MANAGING THE FEDERAL GOVERNMENT

(By Stephen K. Bailey, in "Agenda for the Nation," Brookings Institution, 1968, pp. 301-321)

The President of the United States faces a crisis of public confidence in the capacity of the federal government to manage itself and to carry out with efficiency, equity, and dispatch its own legislative mandates.

The seriousness of this issue can hardly be overstated. In question is the capacity of an eighteenth century constitutional arrangement of widely diffused and shared powers and a nineteenth century system of political pluralism to deal effectively with twentieth century problems of technological, social, and economic interdependencies—at home and abroad.

Unless the President devotes substantial attention to making the system work—an effort involving persistence and the employment of high political skills—the consequences for the future of the American polity could be serious in the extreme.

The programs and policies of the government of the United States are currently carried out by a diverse collection of political, administrative, and judicial systems. (The last of these is not treated in this paper.)

The descriptive and taxonomic problems alone are almost grotesque in their complexity. One may list and classify the obvious. The federal government of 1968 contains: three constitutional branches—legislative, executive, and judicial; an Executive Office of the President with a half dozen major constituent units and scores of minor councils and committees; four operating agencies exclusively responsible to the Congress, which itself is divided into two houses, forty standing committees, and more than two hundred subcommittees; twelve cabinet departments; fifty independent agencies, nine of which are independent regulatory commissions with both quasi-legislative and quasi-judicial au-

thority; fifty-statutory interagency committees; 2.8 million civilian employees, 90 percent of whom are employed in federal field offices outside of the Washington, D.C., area; and 3 million military employees.

This gross breakdown suggests the magnitude and diversity of the enterprise, but it is only the tip of the iceberg. For federal policies are today carried out through a bewildering number of entities and instrumentalities: subdepartmental and subagency offices, branches, divisions, units—headquarters and field; hundreds of nonstatutory, but more or less permanent, intra-agency and interagency committees and commissions; grants-in-aid to fifty-five state and territorial governments and their hundreds of subdivisions, including tens of thousands of local governments, with more than 20,000 local school districts; a growing number of quasi-public, nonprofit corporations; scores of international and regional organizations; and myriad contracts to private industries, universities, professional groups, and charitable institutions.

Many of these subsidiary agents have their own separate identities, legal bases, and agenda of priorities apart from their instrumental (and often incidental) role in federal policy implementation.

This almost limitless diffusion presents internal problems of communication and control and often makes terms like "accountability" and "responsibility" words of art to cover a kaleidoscope of administrative fragmentation.

Even if the scene were not so cluttered, even if the formal structure of executive departments, agencies, and personnel were exclusively responsible for the implementation of federal policy, our constitutional system of shared powers and the pluralistic and oligarchical nature of political parties and interest groups would interfere with any neat model of hierarchical loyalty and public accountability. Elmer E. Schattschneider once commented that the history of the federal government could be written in terms of a struggle between the President and the Congress for control of the bureaucracy. But even this is too simple. For the struggle is not just between the President and the Congress: within the Congress, committee and subcommittee chairmen, often allied with powerful private group interests, exercise extraordinary control over the policies and administrative arrangements of subdepartmental and subagency units of the bureaucracy.

If we lived in a simpler and less apocalyptic age, such a complex arrangement might be tolerated without fear of untoward disruptions to basic social values. But this is not the case. The American national government is confronted with unprecedented factors that place an absolute premium upon improved managerial competence in the public sector:

Government decisions involve increased stakes and risks, while mistakes are much harder to retrieve.

Science and technology have penetrated national security, environmental, and social strategies in a way that imposes acute moral and philosophical burdens upon public policy.

The dimensions of public spending require a modern President to monitor spending, taxing, and wage-price relationships with unprecedented precision, and to take stabilization actions without regard to the costs to his political credit balances; he is now obliged to be a conscientious student of economics.

"People" problems no longer lend themselves to straight-line solutions, and a President finds that he must work overtime to compensate for failures of administrative response and to teach a new administrative style to reluctant bureaucrats and congressmen.

Shortened decision intervals and reaction times drive a President to form his calculus of strategy on the run, as it were, placing a premium on accurate and adequate information systems and analytic support.

The modern President lives with a relentless social criticism that generates dissatisfactions with the quality of life and leadership and tends to force his timing and priorities.

In this kind of world, the President, by the logic of his position, must have two overriding managerial concerns:

How can the federal government identify, mobilize, train, and release the energy of the most impressive talent in the nation for developing and carrying out federal policy?

How can staff and line arrangements in the executive branch contribute to more rational and imaginative policy inputs to political decision making, and how can they contribute to more effective and coordinated policy implementation?

These two concerns must be specifically related to the modern President's inevitable preoccupations in the field of public policy: national security, economic stability and growth, environmental management and control, and human resource development.

Concretely, in national security affairs modern Presidents cannot afford a series of "Bay of Pigs" episodes, nor can they afford contradictions between diplomatic and military initiatives. In domestic affairs, they cannot afford to allow brave legislative responses in the fields of environmental management and control and human resource development to be blunted by ineptness and confusion in implementation, as has been the case with much of the Great Society legislation of 1964-65. In economic affairs, Presidents cannot afford to return to earlier days when the varying power centers of economic stabilization policy making (notably key congressional committees, the Budget Bureau, the Council of Economic Advisers, the Treasury, and the Federal Reserve Board) went their separate ways. To do so would be to invite economic disaster.

The difficulty is that the magnitude of the political as well as administrative tasks in assuring some modicum of competence and coherence in these preeminent areas of public policy is staggering. For there are no organizational gimmicks capable of overcoming the enormous centrifuge of governance in our pluralistic society.

An attack upon the managerial inadequacies of the federal government should encompass at least the Executive Office of the President, the departmental and agency structure, the federal field office structure, the devolution system for the transfer of federal funds and functions to nonfederal agencies, and the federal personnel system. As we shall note later, none of these five points of attack can be negotiated without major presidential attention to the configurations of power dominating the Congress.

Before examining policy alternatives and recommendations relating to each of these separately and in combination, a brief review of federal reorganization efforts of the past several decades is in order, for future possibilities are inevitably conditioned by the legacy of the past.

REORGANIZATION: A BRIEF HISTORY

Concern with the organization and management of the national government goes back a long way. The first study was commissioned by the Continental Congress in 1780. For the first century of this nation's history, however, investigations into these issues were feeble and intermittent.

It was only when the federal budget approached the billion-dollar mark, during the administration of President William Howard Taft, that a major attempt was made to examine questions of overall structure and procedures. And even the Taft Commission on Economy and Efficiency (the Cleveland Com-

mission, 1910-13) devoted most of its energies to minute problems of internal management. The major fruit of its labors was the Budget and Accounting Act of 1921, which established the Bureau of the Budget (BOB) in the executive branch and the General Accounting Office in the legislative branch. The Bureau of the Budget was the first nonwar-time centripetal staff agency available to the President for the conduct of his managerial responsibilities.

The 1920s witnessed a variety of additional proposals, both legislative and executive, focused on administrative reorganization. Most of the major recommendations got nowhere. Occasional authorizations were given to the President for minor reassignments of functions across agency lines, but Congress systematically pigeonholed or voted down any major delegation of power to the President for reorganizing executive branch functions.

In 1932, President Herbert Hoover submitted a message to the Congress calling for a massive reorganization of the executive branch. In a classic statement of the "practical difficulties of such reorganization," he commented as follows:

"Not only do different fractions of the Government fear such reorganization, but many associations and agencies throughout the country will be alarmed that the particular function to which they are devoted may in some fashion be curtailed. Proposals to the Congress of detailed plans for the reorganization of the many different bureaus and independent agencies have always proved in the past to be a sign for the mobilization of efforts from all quarters which has destroyed the possibility of constructive action."¹

How penetrating this observation was can be judged by the fact that after the law was passed every executive order submitted by President Hoover to implement the act was disapproved. Furthermore, the law itself provided for key exceptions to the President's sphere and requested him to set up consolidations of the following governmental activities:

"Public Health (*except that the provisions hereof shall not apply to hospitals now under the jurisdiction of the Veterans Administration*), Personnel Administration, Education (*except the Board of Vocational Education shall not be abolished*) . . . and to merge such other activities, *except those of a purely military nature*, of the War and Navy Departments, as . . . may be common to both . . . *except that this section shall not apply to the United States Employees Compensation Commission.*"²

This was not the first nor was it to be last of such explicit exceptions to the reorganization authority of Presidents.

The coming of the New Deal brought a totally new dimension to the policies and organization of the executive branch. A bevy of new laws created a host of new agencies and a variety of new functions within old agencies. And President Franklin D. Roosevelt had no institutional machinery for rationalizing and resolving emerging administrative issues, or for supervising in any meaningful sense the hundred-odd separate departments and agencies that reported directly to him.

In 1936, President Roosevelt created the Committee on Administrative Management under the chairmanship of Louis Brownlow. The report of the Brownlow Committee was probably the most sensible and impressive

¹ W. Brooke Graves (comp.) *Reorganization of the Executive Branch of the Government of the United States: A Compilation of Basic Information and Significant Documents, 1912-1948*, Library of Congress, Legislative Reference Service, Public Affairs Bulletin No. 66 (1949), p. 96.

² Graves (comp.), *Reorganization of the Executive Branch* (emphasis supplied.)

ever made on federal government organization. Many of its recommendations, notably those concerned with the independent regulatory commissions, the Civil Service, the General Accounting Office, and new cabinet departments, were largely ignored by the Congress. Its lasting contribution was the successful recommendation to create an Executive Office of the President (EOP) containing an expanded White House staff, the Bureau of the Budget (until then housed in the Treasury Department), and a National Resources Planning Board. Although the last was killed by congressional action in withholding appropriations in the early 1940s, the essential rubric of the Executive Office has remained. It is inconceivable that the government could have successfully negotiated the turbulent currents of the past quarter century without it.

The Second World War saw the inevitable proliferation of war-related agencies, most of which disappeared at the end of the conflict. But the experience of war, especially the difficulties of relating separate military services to the consolidated demands of amphibious warfare and the serious problems of interrelating diplomatic and military initiatives and intelligence, led in 1947 to the National Security Act which created a National Defense Establishment, a National Security Council, and a Central Intelligence Agency. It would take time for these components to emerge into any kind of structural coherence, but the 1947 act set the foundation stone for the future.

In the immediate postwar years, the other major organizational development was the creation of the Council of Economic Advisers in the Executive Office of the President. This added staff resource has been of invaluable help to the President and the Congress in analyzing the state of the economy, in planning fiscal policy, and in acting as the major catalyst of interagency (BOB, Federal Reserve, Treasury) cooperation on fiscal matters.

Also in 1947 President Harry Truman asked Congress to create a bipartisan, twelve-man Commission on Organization of the Executive Branch of the Government.

The Commission (the First Hoover Commission) reported, and at length, in 1949. A number of its recommendations were adopted, under President Truman and later under President Dwight D. Eisenhower: the creation of a Department of Defense (replacing the National Defense Establishment); the assignment of the National Security Council to the Executive Office of the President; the creation of a cabinet-level department of Health, Education, and Welfare (HEW); and the centralization of increased authority in department heads, cutting away at some of the statutory authority that Congress had assigned at the subdepartment level. But many sacred cows were left undisturbed, and the commission's plea for a "sharp reduction" in the number of federal administrative agencies fell upon deaf congressional ears.

A Second Hoover Commission was created in the mid-1950's; but its mandate, to examine governmental functions which should be discontinued, was preposterous, for it invaded the constitutional prerogatives of President and Congress. The commission's effective residue was little more than a chemical trace.

Aside from Secretary Robert S. McNamara's progress in transforming Defense from a *de jure* to a *de facto* department, the creation of an Office of Science and Technology in the Executive Office of the President, and the assigning of a White House role to the chairman of the Civil Service Commission, no substantial success greeted the John F. Kennedy administrations' various attempts to reorganize the government.

President Lyndon B. Johnson has succeeded in adding two new cabinet departments: Housing and Urban Development

(HUD), and Transportation. He also added the Office of Economic Opportunity (OEO) to the Executive Office of the President. During his administration a number of task forces have addressed themselves to questions of government organization—especially in the increasingly tangled thicket of intergovernmental relations as they relate to problems of poverty, race, welfare, urbanism, and education.

However, most of the underlying problems of organization remain. These have been illuminated time and again by presidential task forces, by congressional committees, by journalists, pamphleteers, and scholars. Congressional literature is particularly rich. Notable in recent years have been the studies of the Jackson Subcommittee on National Security Staffing and Operations and the Muskie Subcommittee on Intergovernmental Relations of the Senate Committee on Government Operations. More recently committees in both the Senate and the House have examined the adequacy of federal organization for mounting a coherent attack upon problems of the physical environment.³

Although these various studies, investigations, and proposals have differed in viewpoint and attack, there has emerged in recent years a consensus on two major issues: (1) the federal government lacks machinery for the effective development, implementation, and coordination of public policy; and (2) the conduct of the government's business is overcentralized in Washington.

Proposed remedies have included recommendations for the enlargement and restructuring of the Executive Office of the President; the consolidation of federal programs and functions into a few major departments; the strengthening of staff offices at the level of the secretary; making a departmentwide (secretary's) presence felt in federal field establishments; upgrading the quality and enlarging the power and discretion of federal field offices at home and abroad; devolving the conduct of federal business increasingly upon state and local authorities and upon private or quasi-public instrumentalities; and reform of the career services and upgrading of public personnel charged at various levels of government with the conduct and control of federal policy.

Whatever merit these various recommendations have had (and this paper will later explicate and endorse a number of them), they have tended to suffer from two overriding limitations: first, as commonly set forth, they have ignored the realities of congressional power, the rigidities of the present congressional committee structure, and the mutual deference patterns within the legislative branch, all of which affect the organization and conduct of federal programs; second, many of them have failed to articulate some of the administrative and policy costs and consequences possibly attendant upon their adoption. It is possible, for example, that unless extreme care is taken program coordination can be the enemy of program energy. "Keeping track" may be the enemy of "making tracks."

It may be argued, of course, that this dilemma is false; that topside planning and coordination is the precondition, not the enemy, of effective subordinate energy; that if program coordination is not rationally produced at the top it will be irrationally and wastefully accomplished through survival-of-the-fittest skirmishes at lower levels. This, in fact, is the author's own considered judgment. But to state the ideal is a far cry from realizing it in practice, and history sug-

gests that arrangements constructed to achieve this ideal are inherently unstable—tending to veer toward the Scylla of a debilitating overcentralization on the one hand, or the Charybdis of programmatic anarchy on the other. All one can say at this moment is that historically in the United States more bones have been scattered around Charybdis than around Scylla. To change the idiom, constitutional and political beliefs and forces tend to run against generalist "kings" in favor of functional "barons."

THE LIMITATIONS OF EXISTING DEVICES

The validity of the foregoing proposition hardly needs elaboration. It can be readily documented by examining the weakness of centripetal devices now in vogue or recently tested in almost every level and branch of government.

First, there is the device of statutory or ad hoc interdepartmental and interdepartmental committees. There are thousands of them in the federal government alone, including a number in the Executive Office of the President. Most of them suffer from three chronic ailments: (1) confederationitis, (2) progressive deputization, and (3) implemental anemia. The first leads to common-denominator "paper" solutions for problems frequently calling for uncommon-denominator practical solutions. The second, marked by preoccupied secretaries requesting under secretaries to sit in for them, who in turn deputize assistant secretaries, who in turn deputize deputy assistant secretaries, ad infinitum, leads inevitably to a loss in the plenipotentiary capacity of the committee members, and to the necessity of referring every important issue back to each agency for topside clearances. The third means that, even if and when consensus can be reached within an interdepartmental committee, such consensus is not self-enforcing and can, in fact, be rendered inoperable by the failure of constituent units to implement the decision reached. When such committees are established by congressional mandate, further complications arise, for they cannot easily be disbanded nor their agenda adapted to new issues. If they become well-staffed and effective, they may interpose themselves between the President and his department heads and develop a policy line out of phase with both.

Necessary as such committees are, their numbers should be drastically pruned, and in any case they are no solution to most problems of program planning, coordination, and operational effectiveness that afflict the public sector.

Second, the "lead agency" notion, however attractive in theory, seems to have similar limitations. Bringing all relevant agencies together for specific program purposes under the chairmanship of the head of the department that has major concern or competence in a particular policy area would seem on its face to be a reasonable approach. But, since everyone likes to coordinate and few like to be coordinated—especially by one's peers—this device tends to degenerate into a simple interdepartmental committee with all of the inadequacies suggested above. Low-level issues may be thrashed out and clarified; tough issues of jurisdiction and authority rarely are, for disgruntled committee members have the option of appeal to centers of power in the presidency or in the Congress that can effectively override the decisions of the lead agency. The history of OEO, HUD, and HEW in that role is not encouraging, although some promise can be found in some of the lead-agency functions performed in foreign affairs by the Department of State.

A third device is coordination by presidential advisers, White House assistants, or by other representatives of the Executive Office structure. This has been attempted in various forms over the past decades. Sometimes the job has been given to individual men of considerable stature and ability (for exam-

ple, Colonel Edward M. House, Harry Hopkins, "Jimmy" Byrnes, Sherman Adams, a vice president). The de facto "prime" minister, or executive vice president, device suffers, however—at least, in our form of government—from two intractable flaws. If he is strong, he tends to shield the President from issues, information, and forces essential to presidential judgment and power; if he is weak, he tempts others to go around him, thereby creating rather than solving problems for the chief executive.

More often, the President has used his "anonymous" White House assistants and his major institutional staffs in the Executive Office of the President to assist him in program planning and coordination. However successful this fairly flexible arrangement has been (and, if it had not been partially successful, the federal government could not operate at all), it has serious weakness. If the President defends his intimate staff too often, he has created a supercabinet; if he does not defend them at all, they are powerless. If he institutionalizes them, their time is preoccupied with managing their own subordinates, limiting their time and tolerance for intimate contacts with the President; if he does not institutionalize them, they become swamped by paper from below and expectations from above. And in many areas of public policy where the President himself is weak (programs under the jurisdiction of independent regulatory commissions; agencies like the Atomic Energy Commission and the Army Corps of Engineers that are effectively controlled by congressional committees), presidential staff, no matter how brilliant, are limited by legal and political reality.

This rather melancholy sample of centripetal coordinating devices and their weaknesses is not meant to suggest that nothing has been done or can be done to improve the coordination of policy planning and implementation in the federal government. There have been many evidences of at least partially successful endeavors along these lines. The Bureau of the Budget at its best is a remarkable and indispensable coordinating device, especially when buttressed by informational and analytical skills of cognate agencies like the Council of Economic Advisers and the Office of Science and Technology. Presidential assistants play out a daily drama of conflict resolution and program rationalization. The transformation of the Department of Defense under Robert McNamara is an indication of what at the departmental level can be done, in Paul Appleby's felicitous phrase, "to make a mesh of things." The development of analytical instruments like PPBS (Program Planning and Budgeting System) shows promise of making resource allocation choices more coherent and rational.

But enormous inadequacies remain and they cannot be redressed effectively without a sober recognition of the fact that the battle for improved federal management must be fought on a number of fronts simultaneously. The five major salients already identified need particular attention: the Executive Office of the President; departmental arrangements; federal field establishments; the devolution system; and personnel systems at all levels.

Executive Office of the President

The presidency is the only institution in the American polity where overarching and long-range public imperatives can be coherently analyzed and melded. This is true both because of the ubiquity of the presidential constituency, and because the President is mandated to recommend to the Congress a coherent program for allocating resources to and within the executive branch.

The structure of the Executive Office of the President must reflect the prime concerns of the nation as viewed from the vantage point of the chief executive. In the present age, as already noted, these prime

³ See esp. *Managing the Environment*, Report of the House Committee on Science and Astronautics, 90 Cong. 2 sess. (1968); and *Report of the Joint House-Senate Colloquium to Discuss National Policy for the Environment*, 90 Cong. 2 sess. (1968).

concerns are four: national security, economic stability and growth, the integrity and viability of the physical environment, and the promotion of human welfare and of human resource development. In these four areas, the President must have at his disposal institutional arrangements that can help him plan wisely, sort options judiciously, and effect coordinated responses.

Because priorities change and, more important, because each President has his own leadership style, he must be given very substantial latitude in organizing, reorganizing, and adjusting the constituent units of his executive office. He must also have at his disposal substantial discretionary funds (\$25,000,000 per year as a minimum) to permit him to tap selective expertise across the nation on an ad hoc basis, and to initiate in-house experimental capabilities for improving the planning and management functions of the office. The present discretionary funds of the President for "special projects" (\$1.5 million) are totally inadequate.

If the President can secure from Congress the right to structure and manage his own office without restriction—including the right to make in-office appointments without Senate confirmation and the right to create, shift, and abolish constituent units and personnel assignments as he deems necessary for the effective conduct of presidential business—he will have won a major victory for effective public management. These prerogatives are essential if he is to have authority anywhere near commensurate with his administrative and policy-making responsibilities.

Granted this kind of authority and discretion, what should he do with it? Although each President will and must use them according to his own temperament and administrative proclivities, three weaknesses exist in Executive Office of the President capabilities so glaring as to merit special emphasis.

First is the office's weakness in policy development. The presidency is perched on top of what one astute observer has called "a bottom-heavy administrative system." Policy proposals tend to emerge from levels of operational enthusiasm, which are likely to be the lower and middle governmental levels, coupled with discrete, single interest segments of the private sector. Aside from ad hoc task forces (many of which have been extremely productive and catalytic), there is no effective agent or agency in the Executive Office of the President charged with the study of emerging public problems and the development of effective programs to deal with them in terms of continuing and changing presidential perspectives of the public interest. This is less true, of course, in the occult fields of economic stabilization policy and national security policy where the Council of Economic Advisers and the staff of the National Security Council have increasingly strengthened their policy-review capabilities. But in the increasingly troublesome and important areas of environmental management and "people" programs (health, poverty, education, welfare, housing, urban renewal, and the like) the EOP is patently deficient. Existing budgetary and legislative clearance reviews are inadequate. There is no underlying statistical and informational system of social and environmental indicators comparable to the economic indicators available to and through the Council of Economic Advisers. Whatever its original intent, the Office of Economic Opportunity has become an operational advocate, not a reflective center of governmentwide policy analysis. Since the demise a quarter of a century ago of the National Resources Planning Board, no presidential staff has concerned itself full-time with ecological interdependencies. The only gestures in this direction in recent years have been the Committee on Environmental Quality of the Office of

Science and Technology, and a Water Resources Council independent of the Executive Office structure. The former is too small and weak to be effective (ideally, it should be reconstituted as a separate, strongly staffed office in the Executive Office of the President); the latter is limited by statute to water resources alone.

Whether effective policy analysis staffs in the environmental and human resource areas should be combined or kept separate, should be created inside the Bureau of the Budget or as a new and separate agency within the EOP (on balance, the author's choice) is perhaps of secondary importance. What is essential is that such a capability exist in the Executive Office of the President. Coherence and rationality in federal programming in these areas is impossible without such a capability. This is true in Washington; it is increasingly true in the complex arena of intergovernmental relations. State and local governments are federal partners in the purveyance of public services; their capacity to develop programs that effectively complement and implement national policies is today a matter of crucial importance. Too often they are bound by rigidities and categorical overprescriptions imposed by federal legislation and by administrative regulations and guidelines. There is a pervasive need to loosen existing categorical boundaries without destroying the basic thrust of federal categorical grants designed to promote the national interest.

One possible device to meet this need might be for the President to assign staff from his executive office and/or relevant departments and agencies to ride budgetary circuits in the fall of each year. Such staffs, with advance congressional approval, might be empowered to permit state and local governments to shift up to, say 25 percent of approved categorical federal grants from one category to another; this would make the grants more relevant to varying state and local needs and would promote a series of useful dialogues between the partners of the federal system.

The second weakness of the President's office is the inadequacy of machinery for command and control within the sphere of his own executive competence. As suggested earlier, there are many areas of policy in which for reasons *de jure* or *de facto* the President has authority only to persuade and cajole, or in which he must repair to informal powers deriving from his political rather than his constitutional status. But even when his legal authority is clear, he lacks efficient means of enforcing his political will. Little is gained in strengthening the policy analysis capabilities of his office unless he can effect more coherence in policy implementation. It is true that knowledge can be power, and the President's directive responsibilities can probably be exercised with greater effectiveness if his policy analysis staffs are able to create information systems that include hard and systematic evaluations of federal programs. But the President's present span of control is so unwieldy, his budgetary flexibility is so limited, and his managerial universe is so ponderous that intelligence alone will not give his directives appropriate clout. If two or more agencies chart collision courses or if they determine to ignore presidential guidance, there is little the chief executive can do short of ultimate sanctions (such as firing) that often have prohibitive political costs.

It is this reality, of course, that has led a number of administrative reformers to suggest that the President needs one or more executive vice presidents or presidential coordinators to whom he can delegate command functions over parts of the executive branch, including his cabinet departments, in Washington and in federal field establishments. The inconveniences and political hazards of such devices and developments have already

been traced. But the problem remains, and the need is real.

There is no single and easy solution to the problem, but if the President is given the kind of flexible control over his own office called for above, he should certainly use this elaborated discretion to experiment with a number of command-control devices. At the very least, he should create a team of two or three or four presidential "administrators" or "expeditors," removed from the day-to-day preoccupations of existing White House aides, who could be assigned on an ad hoc and short-term basis as troubleshooters to straighten out jurisdictional conflicts among agencies, both in Washington and (on an itinerant basis) in the field. "Ad hoc" and "short-term" must be underlined, for permanent and long-term portfolios for such assistants could only produce impossible tensions with cabinet secretaries, agency heads, and key legislators. Furthermore, they might easily create centers of power in the executive branch competitive with, rather than derivative of, presidential authority. Such administrators or expeditors must be men of considerable personal stature. As surrogates for the chief executive in a system inherently unfriendly to surrogates, they must be skilled in mediation, soft of voice, wise in the ways of politics, and utterly devoted to the President—institutionally and personally. The President must be prepared to support their judgments in the overwhelming majority of cases while being willing on occasion to overrule them on appeal. This complex prescription may prove to be impossible of implementation, but it is the only one that, in the judgment of this author, gives promise of success.

The third and final major weakness of the presidential office is in communicating with the public and with state and local officials. Here, too, there are constraints. Too "open" a presidency can build impossible expectations, induce claimants to bypass channels of access to departments and to Congress, clog the President's information system, and preclude that measure of confidentiality necessary for face-saving negotiations. Too frequent use by the President of the mass media dilutes the President's "Nielsen rating" with the consequent danger of limiting his impact when real crises appear.

But inadequate communications, both inward and outward, can be equally perilous. Fresh ideas from creative citizens, and from public officials at all levels of government, can be lost or ignored. A public bewildered by complex public problems can be denied the clarifying and unifying voice of the President. In such circumstances, the chief executive can easily become vulnerable to surprise and miscalculations.

Adequately mandated policy analysis staffs and presidential expeditors with sensitive antennae can remedy some of the existing defects in communication flows, but far more needs to be done to help the President develop effective techniques and policies. A public information competence must be built into the White House, possibly in an enlarged office of the press secretary, and at least one unit in the White House should be devoted to intergovernmental liaison with governors and with top officials of local government.

There are still other weaknesses in the Executive Office at the President. First, there are far too many statutory and ad hoc interdepartmental councils and committees with fuzzy mandates, little or no power, and only intermittent and unsatisfactory access to the President himself; these should be abolished or consolidated with more permanent staff operations. For example, the National Aeronautics and Space Council and the Marine Resources Council should probably be placed under a comprehensive Office of Environmental Analysis. The whole structure

of citizens' advisory committees to the President should be reviewed and rationalized.

Second, the White House needs an even greater capability to identify talent for appointive federal positions in both domestic and international departments and agencies. It is an unfair strain upon the chairman of the Civil Service Commission to serve both as director of the President's personnel operations and as the policy chairman of the major career service of the federal government.

Third, the operational aspects of the Office of Emergency Planning (for mobilizing the services of all levels of government to meet emergencies of war or natural disaster) and the Office of Economic Opportunity should devolve upon other agencies (the General Services Administration for Emergency Planning; HEW and/or Labor for OEO), although in the case of OEO extreme care must be taken to insure that the innovative and flexible characteristics of many of its programs are not destroyed by transfers to more traditional and conservative bureaucratic superiors. It should be possible for some civilian counterpart to the "Green Beret" or Marine Corps mission-oriented services, often competitive with more massive and sodden bureaucracies, to be established (and disestablished) within existing departments or as functions of independent agencies. The Executive Office of the President is not the appropriate rubric for these kinds of operating line activities.

Fourth, the staff competence within the Executive Office (presumably within the Bureau of the Budget) for studying and recommending structural changes and procedural improvements throughout the executive branch organization, on a continuing basis, needs to be strengthened in quality, size, and funding.

All of these are important addenda to the three essential areas of concern identified earlier. Progress along all of these lines can best be promoted by giving to the President effective control over the organization, staffing, and missions of the Executive Office of the President. If this is to happen, as we shall note below, the President must ask for and receive the understanding, support, and assistance of the United States Congress.

Departmental structure

One of the basic tenets of public administration is "span of control." In its simplistic form, at least in the federal government, it is a silly notion. The number of units reporting to a single administrator is not the essential factor in determining topside control. Ten units are too many if each has its own base of power in the legislature or in clientele groups of significant political influence. A hundred units are manageable if most of them lack an independent base of power, and if their mission is precise and low voltage. Little is gained or lost in terms of "good management" in the executive branch if the Corregidor-Bataan Memorial Commission, the American Battle Monument Commission, the Commission of Fine Arts, the Foreign Claims Settlement Commission, and the Panama Canal Company are allowed to continue as independent, free-wheeling agencies. Those who would tidy up the administrative structure of the executive branch by putting everything under four or five giant-sized superdepartments, or under fifteen of twenty economy-sized regular departments, on the ground that only then can the President enjoy a manageable "span of control," overestimate the importance of the precept and underestimate the difficulties of achieving intradepartmental, let alone interdepartmental, coherence in anything as complex and diffuse as the federal government.

This is not to say, however, that the present structure of departments and agencies is either logical or efficient. Some regrouping and much internal reorganization, espe-

cially at the bureau level, is patently necessary. But since both of these kinds of moves involve political headwinds of gale force, a President should pick and choose a few major objectives and should calculate his political rations with extreme care.

The difficulty is that across-the-board generalizations about federal departments and agencies are inherently dangerous or irrelevant. Some are probably too large and heterogeneous (for example, HEW); some are too small and/or clientele-oriented (Labor, Commerce, Veterans Administration (parts of Interior, Agriculture, and HUD)); some are too independent (certain regulatory commissions); some are too dependent upon Congress (Atomic Energy Commission, the Corps of Engineers, the FBI); some are miscast as cabinet departments (Post Office); some are too plagued with ingrown career service elitism (State); some lack the internal capacity or external support to generate and sustain high morale (Agency for International Development). A general diagnosis and a general therapy are, in short, effectively impossible.

It is possible, however, to raise questions about departmental and agency structure relating to at least two of the four overarching concerns of the President: environmental management and control, and human resource development.

This is not to say that is well in the field of administering national security policy and economic stabilization policy—though the administrative machinery in the latter field has functioned relatively smoothly in recent years. While space does not permit an extended discussion here of problems in the national security area, it must be noted that the overseas mishmash of federal agency representatives still escapes effective control by the ambassador in the field or by the Department of State in Washington. The inflow of information and intelligence by cable and pouch has long since passed the point of digestibility. Horizontal and lateral clearances absorb an unconscionable amount of time and effort and involve delays that are sometimes dangerous. Some of these difficulties defy organizational rationalization; others might be partially obviated by an appropriate delegation of authority to regional assistant secretaries of state and by a more elaborate and effective staffing of the office of the Secretary of State. In 1962 the Herter Committee on Foreign Affairs Personnel recommended an executive under secretary of state, a further administrative option that deserves careful consideration.

On major and critical issues of foreign affairs the threat of apocalyptic consequences has a way of crystallizing small cadres of influentials under the immediate direction of the President. Emerging policies may not always be wise, and the ponderousness of the structure and the system of communications may at times create crossed signals of serious consequence (as when in 1966, peace negotiations with North Vietnam were reputedly shattered by the President's unrecalled prior approval of bombing selected targets near Hanoi). But after a decade of review of national security machinery, the Jackson Subcommittee, although it has recommended a number of incremental improvements, has found no magic formula for a major structural reorganization. All that can be said is that the importance of the issue suggests that urgent and continuing attention must be given to the adequacy of staff arrangements for serving the President in this area of preeminent executive concern.

On the domestic front some major structural changes may well be needed in organization. Those involving the Executive Office of the President have already been discussed. At the departmental and agency level, four questions especially warrant hard analysis and viable answers:

First, how can the management responsibilities of cabinet secretaries and the heads of important line agencies be strengthened without throwing a wet blanket on the morale, energy, and discretion of subordinate operating bureaus?

Second, how can a gigantic hydra like HEW be split up without losing the benefits that logically accrue from reviewing health, education, and welfare as interrelated programs and values?

Third, how can the rule-making power of independent regulatory commissions be more effectively related to the policy mandates assigned by Congress to the President and to departments and agencies without jeopardizing the integrity of the quasi-judicial role of regulatory commissions?

Fourth, how can agency functions be regrouped in the human and environmental resources area in such a way as to promote more coherent program planning and implementation without taking on more battles with vested interests than any single administration can afford?

Again, there are no simple answers to any of these dilemmas, but certain directions seem more promising than others.

On the first question, the essential controls of an agency head over constituent units are three, and only three: (1) control of legislative proposals; (2) control of budgetary totals; and (3) control of major personnel appointments and assignments. Each department secretary and agency head should have a staff, a management information system, and adequate legal and political authority to develop and maintain competence in these areas. The staff need not be large, but it must be highly competent and must be supported with a flow of information that will enable it to present rational policy alternatives to the agency head. With these tools of general, overall management at his disposal, an agency head can delegate to line subordinates a substantial amount of operating discretion. He can also be equipped to serve the President and the Congress in their roles of making politically accountable decisions. Many departments lack the staff, the information system, and the legal and political authority essential for responsible management. The President should urge, and Congress should support, reforms leading to the improvement of this condition.

On the second question, there is probably more to be gained than lost in splitting up HEW. The issue is not the number of employees; Defense, Post Office, Agriculture, and the Veterans Administration all have a larger civilian work force. The issue is the heterogeneity of constituent functions, the size of the budget (HEW's budget is five times greater than the next largest civilian agency), the extensiveness of mandated intergovernmental relations, and the limitations that the present structure imposes on attracting top-grade personnel to man programs of extraordinary national consequence—education, for example. A separate Department of Education would not only symbolize the importance of the federal government's commitment to an essential and growing public function; it would serve as a rubric for gathering together at least some of the educational activities being carried out by departments and agencies outside of HEW (for example, National Science Foundation, OEO, Veterans Administration, National Humanities Foundation, Bureau of Indian Affairs). A Department of Health and Welfare should have no more difficulty in relating to a Department of Education than HEW presently has in relating its disparate activities to cognate functions in HUD, Labor, OEO, in the human resource development area; or to Interior, Agriculture, and the Corps of Engineers in the area of environmental management and control. Granted that these difficulties are substan-

tial, a strengthened program planning and implementation capacity in the Executive Office of the President could more than compensate for any loss in integrating functions now lodged unsuccessfully in the top echelons of an overgrown HEW.

On the rule-making authority of certain independent regulatory commissions, the analyses and advice of the Cushman Report (part of the Brownlow Committee study, 1937) and of the First Hoover Commission (1949) need rereading and studied implementation. America will never have a coherent transportation policy until the rule-making functions (making general legislative mandates specific) of the Interstate Commerce Commission and the Federal Maritime Commission are integrated with the policy responsibilities of the new Department of Transportation. America will never have a coherent power policy until the rule-making functions of the Federal Power Commission and the Atomic Energy Commission are consolidated with those carried out by the Department of the Interior. There have been until now sufficient political barriers to changing the structure and functions of independent regulatory commissions to raise serious questions about the viability of new or reiterated recommendations. But the problem is real, and there are no inherent difficulties in separating rule making from the quasi-judicial functions (making judgments about the legality of activities pursued under laws and rules) of regulatory agencies, preserving the integrity of the latter while making the former subject to responsible and coordinated political control.

The fourth question, on the regrouping of agency functions in the human and environmental resource areas in the face of vested interests, is the toughest. It can be answered in practice only by sophisticated management studies buttressed by executive-legislative concordats. In the absence of major structural changes, some experiments in establishing multiagency operational task forces under the command of presidential designees might well be undertaken—at least where target problems are fairly precise and short-term.

EXHIBIT 3

NIXON TASK FORCE URGES CREATION OF TOP-LEVEL ENVIRONMENTAL AFFAIRS POST

(By Peter Kihss)

President-elect Nixon has received a strong recommendation for naming a Special Assistant for Environmental Affairs, working out of the White House for the first time to dramatize concern over increasing pollution.

"The real stake is man's own survival—in a world worth living in," one of 10 task forces he named on domestic planning has reported to Mr. Nixon in an opening report that said Federal performance in the field thus far had been "disappointingly low."

"The gap between need [as indicated by authorized funding] and appropriations in the air and water pollution abatement programs is critical and growing," the task force advised Mr. Nixon.

"For example, in fiscal 1969, in the water pollution control program, there is an authorization of \$836-million, an appropriation of \$302.8-million and a possible demand in available state and local matching funds of \$1.2-billion," it was stated.

The initial report was submitted to the President-elect last Saturday in New York by a 20-member Task Force on Resources and Environment, headed by Russell E. Train, president of the Conservation Foundation.

On that same day Mr. Train was reported to be under consideration for the post of Under Secretary of the Interior and was briefing the Secretary-designate, who is Gov. Walter J. Hickel of Alaska.

DETERIORATION CITED

Urging that "improved environmental management be made a principal objective of

the new administration," the task force cited "progressive environmental deterioration," including the following:

"The poisoning of our lakes and rivers, the pollution of our air, the changing carbon dioxide content of the atmosphere, the progressive deterioration of the organic fertility of our soils, the pesticides and other chemicals that permeate our living environment, visual ugliness and urban sprawl, the growing inhumanity of our cities, the rising tide of human numbers that threatens to overwhelm us and our civilization."

The group said it was not suggesting any "mammoth new programs" but rather putting emphasis on "performance—on making existing programs work."

While noting that "a host of conservation-environmental legislation" had been enacted, it said the disappointing performance had "a similarity here to the civil rights and poverty fields."

Appointment of a special assistant in the field, it was said, "would give the President for the first time a means of effectively influencing environmental policy across a wide range of agencies."

The new office, it was suggested, would "deal with the problems of compartmentalization and conflict—often between Cabinet officers—that arise constantly in resources and environmental matters."

LIAISON FORESEEN

The new assistant, the report went on, should work closely with the President's science adviser, the chairman of the Council of Economic Advisers and the Budget Director.

It was also proposed that the new assistant be executive secretary of a new President's Council on the Environment, which would represent a broadening of the present inter-agency Council on Recreation and Natural Beauty.

The task force proposed that Vice President-elect Spiro T. Agnew serve as chairman of the reconstituted council "to provide leadership superseding the interests of any single department."

"Federal programs with major environmental impacts, such as highway construction," it was said, "should take into account the side effects, such as air pollution, which are the program responsibility of completely separate agencies. Present structure and, more important, present practice are grossly inadequate in this respect."

A supplementary paper on pollution asserted that "appropriations should be brought up close to authorizations" in Federal programs, but suggested that it would be better to reduce authorizations rather than let states and localities delay action "in unwarranted hope of Federal contributions."

SUGGESTION ON COSTS

This suggestion for possible Federal cuts drew a note from one task force member, Lelan F. Sillin, Jr., president of Northeast Utilities in Hartford, Conn., that it "should be eliminated."

The report's discussion of difficulties in tax incentives for reducing pollution or effluent charges as a means of control drew adverse comment from another member, John H. Meler, executive aide of Hughes-Nevada Operations, of Las Vegas, Nev.

Mr. Meler's comment was that "most of the polluters involve large-scale industry" and "should be required to carry the burden of removing the danger to the rest of the environment."

"If sufficient standards are set to guarantee public health and the enforcement is not interfered with by special interests who lobby against regulation rather than spend money on cleaning it up, the problem can be solved," Mr. Meler wrote.

Other task force members include:

Edward A. Ackerman, executive officer, Carnegie Institution.

Stanley A. Cain, professor, University of Michigan.

Charles H. Callison, executive vice president, National Audubon Society.

Joseph L. Fisher, president, Resources for the Future.

Loren V. Forman, vice president, Scott Paper Company.

Charles H. W. Foster, consultant, Conservation Foundation.

Maurice K. Goddard, Secretary of Forests and Waters, Pennsylvania.

Norman B. Livermore, Jr., Secretary of Resources Agency, California.

Charles F. Luce, chairman, Consolidated Edison Company.

H. Byron Mock, Salt Lake City lawyer.

Bernard L. Orell, vice president, Weyerhaeuser Company.

Nathaniel P. Reed, conservation adviser to Governor of Florida.

S. Dillon Ripley, secretary, Smithsonian Institution.

Laurence S. Rockefeller, chairman, Citizens Advisory Committee on Recreation and Natural Beauty.

John O. Simonds, Pittsburgh landscape architect.

M. Frederik Smith, American Conservation Association.

John W. Tukey, Princeton professor and executive-director of Bell Laboratory.

S. 1076—INTRODUCTION OF YOUTH CONSERVATION CORPS ACT OF 1969

Mr. JACKSON. Mr. President, I introduce, for appropriate reference, a bill to establish a Youth Conservation Corps. This program would be administered by the Departments of Interior and Agriculture with the objective of providing summer employment opportunities for the youth of this country in conservation programs on National Park lands, National Wildlife Refuges, National Forests, and areas administered by the Bureau of Land Management. This program would be open to young men and women of all socio-economic background.

As envisioned in the Youth Conservation Corps Act of 1969, the Corps would be composed of young men and women 14 through 18 years of age. They would be employed for periods not to exceed 90 days in any 1 year by the Secretaries of Interior and Agriculture. Their employment would be without regard to Civil Service classification laws or regulations. Members of the Corps would be considered Federal employees only for purposes of the Tort Claims Act, and laws relating to compensation for injuries. Rates, hours and other conditions of employment would be jointly determined by the two Secretaries, and each would be authorized to make appropriate provisions for transportation, lodging, and subsistence.

Mr. President, many of our Nation's youth—not just the underprivileged and the school dropouts—but also the average teenager often never have an adequate opportunity to be engaged in meaningful employment during the summer months. Because of the employment problems these young men and women face, especially in our urban areas, they are tempted to roam the streets in pursuit of less desirable goals. The Youth Conservation Corps could help correct this problem by providing an alternative. The alternative is employment. Jobs which would furnish

Senate

May 29, 1969

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7. ENVIRONMENTAL QUALITY. Sen. Mansfield submitted an amendment intended to be proposed by Sen. Jackson to S. 1075, to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, and inserted Sen. Jackson's statement. pp. S5819-20
8. NATIONAL PARKS. Sen. Mansfield inserted Sen. Jackson's statement announcing a change in the hearing date on Everglades National Park. p. S5820
9. CONSUMER INSURANCE. Sen. Proxmire announced that a subcommittee of the Banking and Currency Committee will hold hearings on a bill to protect consumers from abuses relative to excessive charges for life, health, and accident insurance pursuant to consumer credit transactions. p. S5820
10. TAXATION. Sen. Young, Ohio, commended proposed tax reform and inserted a series of articles involving "a decision by Treasury Department officials which appears to be a case of platant tax favoritism." pp. S5845-9
11. RURAL DEVELOPMENT. Sen. Pearson inserted his remarks, "Revitalizing Rural America," in which he supports the proposed Rural Job Development Act. pp. S5850-1
12. RECREATION. Sen. Hart spoke in support of developing the Sleeping Bear Dunes National Lakeshore. pp. S5853-4
13. CHEMICAL RESEARCH. Sen. Hart inserted an article, "Caution Needed on Growth Retardants," in which the author states, "I would like to sound a note of warning and ask for fuller testing of CCC, B9 and similar compounds before they are released for general use." p. S5856
Sen. Cook criticized "admitted contaminating...of Dugway proving grounds" by chemical warfare tests. pp. S5857-8
14. ADJOURNED until Mon., June 2. p. S5858

EXTENSION OF REMARKS

15. TAXATION. Sen. Byrd, Va., inserted an editorial criticizing the executive pay increases and stating "more than one-half of this \$9 billion extra revenue that's coming in from the 10 per cent income tax surcharge, which we levied on every taxpayer in this country, will go for pay increases in the first half of this year." p. E4499
16. TEXTILE IMPORTS. Rep. Dorn stated the American people are concerned about the "fantastic increase in textile imports" and inserted a supporting article. pp. E4499-500

BILLS INTRODUCED

17. GUAM. S. 2286 by Sen. Inouye, to include Guam within the purview of the Federal Unemployment Tax Act and related provisions of the Social Security Act and related provisions of the Social Security Act; to Finance Committee.

S. 2288 by Sen. Inouye, to require the payment of prevailing rates of wages on Federal public works on Guam; to Labor and Public Welfare Committee. Remarks of author p. S5806.

18. TRANSPORTATION. S. 2289 by Sen. Magnuson, to amend the Interstate Commerce Act, as amended, in order to make unlawful, as unreasonable and unjust discrimination against and an undue burden upon interstate commerce, certain property tax assessments of common and contract carrier property; to Commerce Committee. Remarks of author pp. S5806-7
19. YOUTH OPPORTUNITIES. S. 2290 by Sen. Harris, to provide opportunities for American youth to serve in policymaking positions and to participate in national, State, and local programs of social and economic benefit to the country; to Government Operations Committee. Remarks of author pp. S5807-10.
20. WILDERNESS. S. 2291 by Sen. Cranston, to authorize the Secretary of the Interior to establish a national wildlife refuge in the south San Francisco Bay area; to Commerce Committee.
21. SEA-GRANT COLLEGE. S. 2293 by Sen. Pell, to amend the National Sea Grant College and Program Act of 1966 in order to extend the authorizations for the purposes of such act; to Labor and Public Welfare Committee. Remarks of author pp. S5816-7
22. LANDS. S. 2296 by Sen. Cannon, to authorize the Secretary of the Interior to grant easements with respect to public lands for certain purposes; to Interior and Insular Affairs Committee. Remarks of author p. S5817
23. CREDIT UNIONS. S. 2298 by Sen. Byrd of W. Va., to amend the Federal Credit Union Act so as to provide for an independent Federal agency for the supervision of federally chartered credit unions; to Banking and Currency Committee. Remarks of author pp. S5817-18.

BILL APPROVED BY THE PRESIDENT

24. MARINE RESOURCES. H. R. 8794, to continue the National Council on Marine Resources and Engineering Development. Approved May 28, 1969 (Public Law 91-15).

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COMMITTEE HEARINGS:

JUNE 4: Labeling and content of frankfurters, H. Government Operations (Somers, C&MS, to testify).

Limit of \$20,000 on farm payments, S. Appropriations subcommittee (Secretary Hardin to testify).

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Bushell resisted an English court's pressures to change the verdict of a jury that was trying William Penn, then 25, for unlawful assembly.

In spite of threats from the bench to "set a mark" on him, regardless of a total of 2 days the jury spent locked in a room "without meat, drink, fire, and tobacco," Bushell, the leader of the jury, refused to convict young Penn for preaching to a group of Quakers.

The outraged court fined each member of the jury 40 marks—about \$500 now—and when they did not pay, sent them to Newgate prison, along with Penn, who had spoken out against the "intolerable threatening" of the jury.

Bushell, a wealthy sugar importer, applied for a writ of habeas corpus and in the subsequent trial, Chief Justice Sir John Vaughn decided a jury should be independent and free from duress and punishment.

It was a landmark decision. It was the beginning of the jury system as we know it today. To be sure, there had been juries probably since the 8th century, but they had always been liable to punishment for "incorrect" verdicts.

William Penn, as we all know, came to America to found a colony. So did the benefits of that great decision come to America, and now some 200,000 times a year, our juries deliver their unfettered opinions according to constitutional guarantees. The jury system is a bulwark of our democracy, so unquestioned now that we are apt to take it for granted.

I am introducing today a joint resolution that would recognize 1970 as the tercentary of the founding of the modern jury system and designate 1970 as "National Citizen-Juror Year."

The PRESIDING OFFICER. The joint resolution will be received and appropriately referred.

The joint resolution (S.J. Res. 114) to honor the citizen-juror and the modern jury system, introduced by Mr. CRANSTON, was received, read twice by its title, and referred to the Committee on the Judiciary.

ADDITIONAL COSPONSORS OF JOINT RESOLUTION

Mr. COOK. Mr. President, at the request of the Senator from Arizona (Mr. GOLDWATER), I ask unanimous consent that, at its next printing, the names of the senior Senator from Nevada (Mr. BIBLE), the junior Senator from Nevada (Mr. CANNON), and the Senator from South Carolina (Mr. THURMOND) be added as cosponsors of the joint resolution (S.J. Res. 85) to provide for the designation of the period from August 26, 1969, through September 1, 1969, as "National Archery Week."

The PRESIDING OFFICER. Without objection, it is so ordered.

SENATE RESOLUTION 206—SUBMISSION OF A RESOLUTION AUTHORIZING THE PRINTING OF A SENATE DOCUMENT

Mr. DIRKSEN, for Mr. SPARKMAN, submitted the following resolution (S. Res. 206); which was referred to the Committee on Rules and Administration:

S. RES. 206

Resolved, That the report of the Subcommittee on Housing and Urban Affairs of the Committee on Banking and Currency entitled "Effect of Lumber Pricing and Production on the Nation's Housing Goals" be printed with an illustration as a Senate document, and that there be printed one thousand additional copies of such document for the use of that committee.

SENATE RESOLUTION 207—SUBMISSION OF A RESOLUTION AUTHORIZING THE PRINTING OF A SENATE DOCUMENT

Mr. ELLENDER submitted the following resolution (S. Res. 207); which was referred to the Committee on Rules and Administration:

S. RES. 207

Resolved, That the Annual Report of the National Forest Reservation Commission for the fiscal year ended June 30, 1968, be printed with an illustration as a Senate document.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969—AMENDMENT

AMENDMENT NO. 25

Mr. MANSFIELD, for Mr. JACKSON, submitted an amendment intended to be proposed by him to the bill (S. 1075) to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, which was ordered to be printed and referred to the Committee on Interior and Insular Affairs.

(See reference to the above amendment when submitted by Mr. MANSFIELD, for Mr. JACKSON, which appears under a separate heading.)

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969—AMENDMENT

AMENDMENT NO. 25

Mr. MANSFIELD. Mr. President, on behalf of the Senator from Washington (Mr. JACKSON), I submit an amendment intended to be proposed by him to the bill (S. 1075) to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, and ask unanimous consent that a statement by him relating to the amendment be printed in the RECORD.

The PRESIDING OFFICER. The amendment will be received, printed, appropriately referred, and, without objection, the statement will be printed in the RECORD.

The amendment was referred to the Committee on Interior and Insular Affairs.

STATEMENT BY SENATOR JACKSON

Mr. JACKSON. Early in this session of the Congress, I introduced proposed legislation to establish a national policy for the environment. I introduced this measure because it is my view that our present knowledge, our established policies, and our existing institutions are not adequate to deal with the growing environmental problems and crises the nation faces.

The inadequacy of present knowledge, policies, and institutions is reflected in our nation's history, and our national attitudes, and in our contemporary life. We see this inadequacy all around us: haphazard urban growth, the loss of open spaces, strip-mining, air and water pollution, soil erosion, deforestation, faltering transportation systems, a proliferation of pesticides and chemicals, and a landscape cluttered with billboards, powerlines, and junkyards.

Traditional governmental policies and programs were not designed to achieve these conditions. But they were not designed to avoid them either. As a result, they were not avoided.

As a Nation, we have failed to design and implement a national environmental policy which would enable us to weigh alternatives, and to anticipate the undesirable side effects which often result from our ongoing policies, programs and actions.

Today it is clear that we cannot continue to perpetuate the mistakes of the past. We no longer have the margins for error and mistake that we once enjoyed.

It was in view of this background and these considerations that I introduced S. 1075, a bill to establish a national environmental policy.

The purpose of the proposed legislation is threefold: *First*, to establish a national policy on the environment; *Second*, to authorize expanded research and understanding of our natural resources, the environment, and human ecology; and *Third*, to establish in the Office of the President a properly staffed Council of Environmental Quality Advisors.

During the hearings on this measure on April 16, Dr. DuBridge, the President's Science Advisor, and Secretary of the Interior Hickel announced that the President is considering the establishment of an interagency environmental council composed of selected Cabinet officers. As I stated at the hearings, this indicates to me: "that the President and officials in the executive branch share the belief of many of us in Congress that some reorganization is necessary. The President apparently agrees that the existing administrative establishment is inadequate for the task we face, and that a focal point for the environmental considerations of government should be designated."

It was the initial view of the Administration's representatives that the President's proposed interagency council would make an independent Council of Environmental Advisors as proposed in my bill unnecessary.

For the most part, the members of the Committee and the public witnesses did not agree with their position. There was, however, general agreement by all concerned that there is a need to restructure the Federal government to provide a focal point for environmental considerations.

It is my view that what is needed is an impartial, objective, full-time Council of Environmental Advisors in the Executive Office of the President. The interagency Council the President is considering would be useful for implementing action proposals, but the President also needs independent and impartial advice as to what action to take. The Council I have proposed would be properly staffed and equipped to provide this advice.

As a result of the April 16 hearing on S. 1075 and subsequent discussions with the Administration, I believe that there is now general agreement on the need for both an interagency Council as proposed by the President, and a high level independent body as proposed in my bill.

It is my understanding that an announcement will be made today that the President has signed an executive order to establish the interagency Council on the environment. I applaud the President's action. I intend to seek early Senate action on S. 1075 so that the President and the American people may have the benefit of the independent and

impartial staff support and advice of the Council which I have proposed.

During the April 16 hearing on S. 1075, the Administration agreed that there is an urgent need to enact into law a statement of national policy with respect to environmental management, and that they would support a statutory declaration of national policy. Subsequent to the hearings, I directed the Interior Committee staff to draft an expanded statement of national environmental management goals, and to grant new authority to Federal agencies which, at the present time, have no mandate or responsibility for the management and protection of the human environment.

This expanded statement of national policy has been prepared as an amendment to S. 1075. It will become Title I of the bill and the other titles will be appropriately redesignated. Mr. President, I ask unanimous consent that this amendment be printed in the Record at the conclusion of my remarks.

A statement of environmental policy is more than a statement of what we believe as a people and as a nation. It establishes priorities and gives expression to our national goals and aspirations. It serves a constitutional function in that people may refer to it for guidance in making decisions where environmental values are found to be in conflict with other values.

Many operating agencies do not at present have a mandate within the body of their enabling laws to give substantive attention to environmental values. This is especially true of the older Federal programs.

A properly drafted Congressional statement of national environmental policy, along with a requirement for official statements of environmental findings in Federal decisions and legislative proposals, will effectively make the quality of the environment everyone's responsibility. No agency will then be able to maintain that it has no mandate or no requirement to consider the environmental consequences of its actions.

I am introducing this policy statement as an amendment to S. 1075 at present because I want the statement to be available to the Administration prior to the informational hearings of the Committee on Interior and Insular Affairs on June 3 and 11 on the Everglades National Park. At the June 3 hearings, I will want to have the judgment of the Administration witnesses on what the effect of this policy statement would have been had it been enacted at the time the Park was created by Congress.

Mr. President, an environmental policy is a policy for people. Its primary concern is with man and his future. The basic principle of the policy is that we must strive, in all that we do, to achieve a standard of excellence in man's relationship to his physical surroundings.

It is my belief that the amendment I am introducing today will go far towards ensuring that the Federal government both sets and abides by standards of excellence; standards which will ensure that our generation fulfills its responsibilities as trustees of the environment for future generations.

ENROLLED BILLS PRESENTED

The Secretary of the Senate reported that on today, May 29, 1969, he presented to the President of the United States the following enrolled bills:

S. 278. An act to consent to the New Hampshire-Vermont Interstate School Compact.

S. 408. An act to liberalize the eligibility requirements governing the grant of assistance in acquiring specially adapted housing for certain service-connected disabled veterans, to increase the amount of such grant, to raise the limit on the amount of direct housing loans made by the Veterans' Administration, and for other purposes.

NOTICE OF HEARING

Mr. McCLELLAN. Mr. President, on behalf of the Committee on the Judiciary, I desire to give notice that a public hearing has been scheduled for Friday, June 6, 1969, at 10:30 a.m., in room 2228, New Senate Office Building, on the following nomination:

David W. Williams, of California, to be U.S. district judge for the central district of California, vice Peirson M. Hall, retired

At the indicated time and place persons interested in the hearing may make such representations as may be pertinent.

The subcommittee consists of the Senator from Mississippi (Mr. EASTLAND), chairman; the Senator from Nebraska (Mr. HRUSKA), and myself.

NOTICE OF HEARING

Mr. McCLELLAN. Mr. President, on behalf of the Committee on the Judiciary, I desire to give notice that a public hearing has been scheduled for Thursday, June 5, 1969, at 10:30 a.m., in room 2228, New Senate Office Building, on the following nominations:

George Harrold Carswell, of Florida, to be U.S. circuit judge for the Fifth Circuit, vice a new position created under Public Law 90-347, approved June 18, 1968.

John F. Kilkenny, of Oregon, to be U.S. circuit judge for the Ninth Circuit, vice a new position created under Public Law 90-347, approved June 18, 1968.

Donald E. Lane, of the District of Columbia, to be associate judge, U.S. Court of Customs and Patent Appeals, vice Arthur M. Smith, deceased.

At the indicated time and place persons interested in the hearing may make such representations as may be pertinent.

The subcommittee consists of the Senator from Mississippi (Mr. EASTLAND), chairman; the Senator from Nebraska (Mr. HRUSKA), and myself.

NOTICE CONCERNING NOMINATIONS BEFORE THE COMMITTEE ON THE JUDICIARY

Mr. McCLELLAN. Mr. President, the following nominations have been referred to and are now pending before the Committee on the Judiciary:

John L. Bowers, Jr., of Tennessee, to be U.S. attorney for the eastern district of Tennessee for the term of 4 years, vice John H. Reddy, retired.

Dean C. Smith, of Washington, to be U.S. attorney for the eastern district of Washington for the term of 4 years, vice Smithmore P. Myers, resigned.

Edward J. Michaels, of Delaware, to be U.S. marshal for the district of Delaware for the term of 4 years, vice Joseph Novak.

On behalf of the Committee on the Judiciary, notice is hereby given to all persons interested in these nominations to file with the committee, in writing, on or before Thursday, June 5, 1969, any representations or objections they may wish to present concerning the above nominations, with a further statement whether it is their intention to appear at any hearing which may be scheduled.

NOTICE OF CHANGE IN HEARING DATE ON EVERGLADES NATIONAL PARK

Mr. MANSFIELD. Mr. President, on behalf of the Senator from Washington (Mr. JACKSON) I ask unanimous consent to have a statement by Senator JACKSON printed in the RECORD.

There being no objection, the statement was ordered to be printed in the RECORD, as follows:

Mr. JACKSON. Mr. President, there has been a change in dates for the informational hearings on the Everglades National Park which had previously been scheduled for June 3 and 4.

Under the revised schedule of the Senate Interior and Insular Affairs Committee, testimony will be taken from representatives of the Administration and the State of Florida on this matter on June 3, 1969, in Room 3110 of the New Senate Office Building at 10:15 a.m.

Testimony from major conservation associations and public witnesses will be taken on June 11 at 10:00 a.m. The location of the hearing room for the June 11 hearing will be announced at a later date.

NOTICE OF HEARINGS ON CONSUMER CREDIT INSURANCE ACT

Mr. PROXMIRE. Mr. President, I wish to announce that the Subcommittee on Financial Institutions of the Committee on Banking and Currency will hold hearings on S. 1754, a bill to protect consumers from abuses relative to excessive charges for life, health, and accident insurance pursuant to consumer credit transactions.

The hearings will be held on Wednesday, Thursday, and Friday, June 25, 26, and 27, and Monday, June 30, 1969, and will begin at 10 a.m. in room 5302 New Senate Office Building.

Persons desiring to testify or to submit written statements in connection with these hearings should notify Mr. Kenneth A. McLean, room 5300, New Senate Office Building, Washington, D.C., 20510; telephone 225-7391.

AUTHORIZATION FOR SECRETARY OF AGRICULTURE TO CLASSIFY AS A WILDERNESS AREA CERTAIN NATIONAL FOREST LANDS IN MONTANA

Mr. MANSFIELD. Mr. President, I have discussed this matter with the distinguished acting minority leader, the Senator from Kentucky (Mr. COOK), and I am happy to ask unanimous consent at this time for the immediate consideration, S. 412, a bill having to do with the Lincoln Back Country in Montana.

The bill was introduced by my distinguished colleague, the junior Senator from Montana (Mr. METCALF). I am happy to say that the bill was unanimously reported today by the Committee on Interior and Insular Affairs.

The PRESIDING OFFICER. The bill will be stated by title.

The ASSISTANT LEGISLATIVE CLERK. A bill (S. 412) to authorize and direct the Secretary of Agriculture to classify as wilderness the national forest lands known as the Lincoln Back Country, and parts of the Lewis and Clark and Lolo

91ST CONGRESS
1ST SESSION

S. 1075

IN THE SENATE OF THE UNITED STATES

MAY 29, 1969

Referred to the Committee on Interior and Insular Affairs and ordered to be
printed

AMENDMENTS

Intended to be proposed by Mr. JACKSON to S. 1075, a bill to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, viz: On page 1, strike all after the enacting clause and on page 2 strike lines 1 through 6 and insert in lieu thereof the following:

1 SHORT TITLE

2 This Act may be cited as the "National Environmental
3 Policy Act of 1969".

4 PURPOSE

5 SEC. 2. The purposes of this Act are: To declare a
6 national policy which will encourage productive and enjoy-

1 able harmony between man and his natural environment; to
2 promote efforts which will prevent or eliminate damage to
3 the environment and biosphere and stimulate the health and
4 welfare of man; to enrich the understanding of the ecologi-
5 cal systems and natural resources important to the Nation;
6 and to establish a Board of Environmental Quality Advisers.

7 TITLE I

8 DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

9 SEC. 101. (a) The Congress, recognizing that man
10 depends on his biological and physical surroundings for
11 food, shelter, and other needs, and for cultural enrichment
12 as well; and recognizing further the profound influences
13 of population growth, high-density urbanization, industrial
14 expansion, resource exploitation, and new and expanding
15 technological advances on our physical and biological sur-
16 roundings, and on the quality of life available to the Ameri-
17 can people, hereby declares that it is the continuing policy
18 and responsibility of the Federal Government to use all
19 practicable means, consistent with other essential considera-
20 tions of national policy, to improve and coordinate Federal
21 plans, functions, programs, and resources to the end that
22 the Nation may—

23 (1) fulfill the responsibilities of each generation
24 as trustee of the environment for succeeding generations;

25 (2) assure for all Americans safe, healthful, pro-

1 ductive, and esthetically and culturally pleasing sur-
2 roundings;

3 (3) attain the widest range of beneficial uses of
4 the environment without degradation, risk to health or
5 safety, or other unintended, unanticipated, and unde-
6 sirable consequences;

7 (4) preserve important historic, cultural, and nat-
8 ural aspects of our national heritage, and maintain,
9 wherever possible, diversity and variety;

10 (5) achieve a balance between population and re-
11 source use which will permit high standards of living
12 and a wide sharing of life's amenities; and

13 (6) enhance the quality of renewable resources
14 and approach the maximum attainable recycling of
15 depletable resources.

16 (b) The Congress recognizes that each person has a
17 fundamental and inalienable right to a healthful environment
18 and that each person has a responsibility to contribute to the
19 preservation and enhancement of the environment.

20 SEC. 102. (a) The Congress authorizes and directs that
21 the policies, regulations, and public laws of the United States
22 be interpreted and administered in accordance with the poli-
23 cies set forth in this Act, and that all agencies of the Fed-
24 eral Government—

25 (1) utilize to the fullest extent possible a syste-

1 matie, interdisciplinary approach which will insure the
2 integrated use of the natural and social sciences and the
3 environmental design arts in planning and decisionmak-
4 ing which may have an impact on man's environment;

5 (2) identify and develop methods and procedures
6 which will insure that presently unquantified environ-
7 mental amenities and values may be given appropriate
8 consideration in decisionmaking along with economic and
9 technical considerations;

10 (3) include in every recommendation or report on
11 proposals for legislation or other significant Federal ac-
12 tions affecting the quality of the human environment,
13 a finding by the responsible official that:

14 (i) the environmental impact of the proposed
15 action has been studied and considered;

16 (ii) any adverse environmental effects which
17 cannot be avoided by following reasonable alterna-
18 tives are justified by stated considerations of na-
19 tional policy;

20 (iii) local short-term uses of man's environ-
21 ment are consistent with maintaining and enhancing
22 long-term productivity; and

23 (iv) any irreversible and irretrievable com-
24 mitments of resources are warranted;

25 (4) study, develop, and describe appropriate alter-

1 natives to recommend courses of action in any proposal
2 which involves unresolved conflicts concerning alterna-
3 tive uses of land, water, or air;

4 (5) recognize the worldwide and long-range char-
5 acter of environmental problems and lend appropriate
6 support to initiatives, resolutions, and programs designed
7 to maximize international cooperation in anticipating and
8 preventing a decline in the quality of mankind's world
9 environment;

10 (6) review present statutory authority, administra-
11 tive regulations and current policies and procedures for
12 conformity to the purposes and provisions of this Act
13 and propose to the President and to the Congress within
14 one year after the date of enactment such measures as
15 may be necessary to make their authority consistent with
16 this Act.

17 SEC. 104. (a) The policies and goals set forth in this
18 Act are amendatory and supplementary to, but shall not be
19 considered to repeal the existing mandates and authorizations
20 of Federal agencies.

21 Renumber remaining titles and sections accordingly.

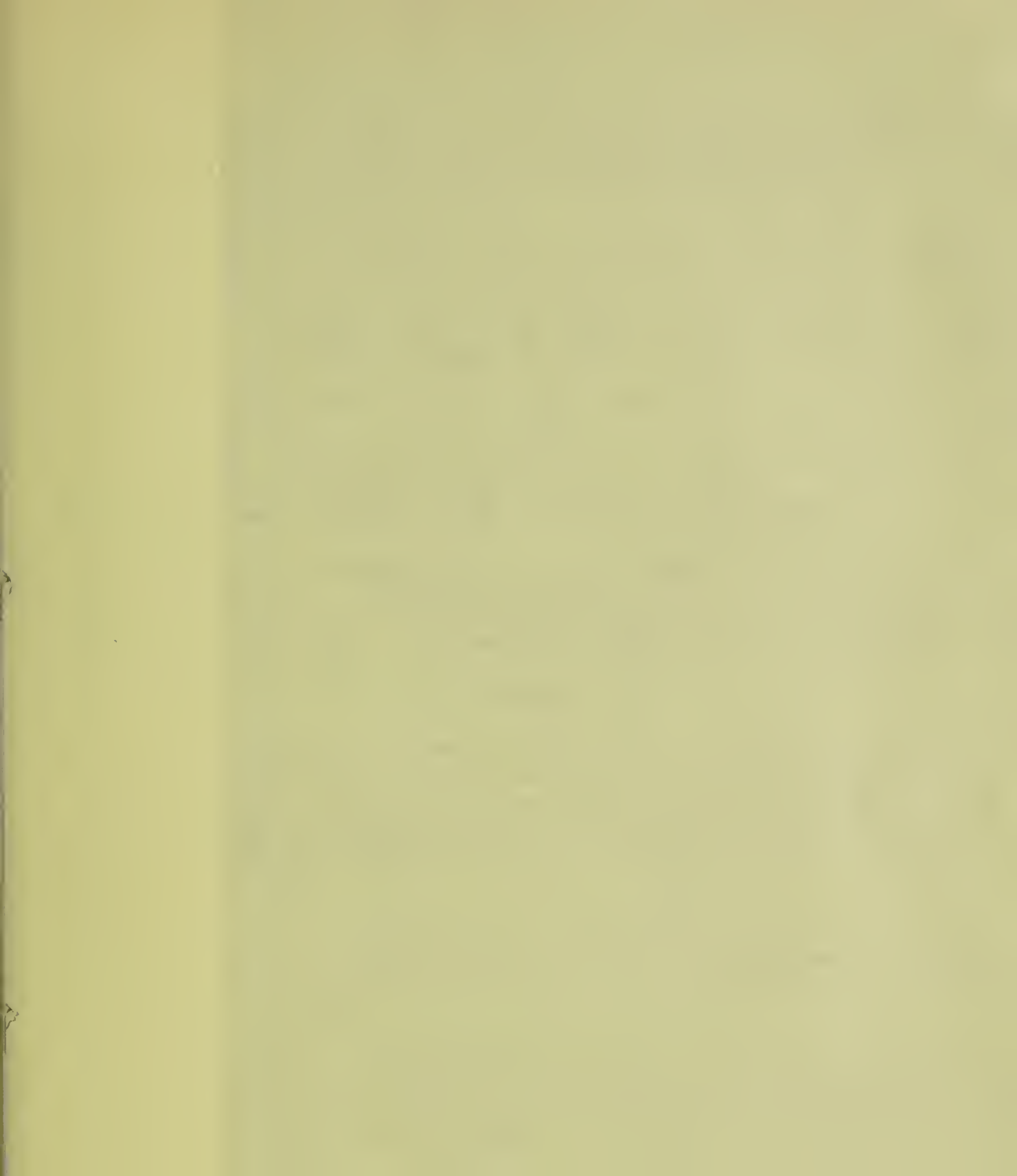
Amend the title so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."

AMENDMENTS

Intended to be proposed by Mr. JACKSON to S. 1075, a bill to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

MAY 29, 1969

Referred to the Committee on Interior and Insular
Affairs and ordered to be printed



Senate

June 18, 1969

-4-

17. YOUTH CORPS. The "Daily Digest" states that the Interior and Insular Affairs Committee voted to report (but did not actually report) S. 1076, to establish a 3 year pilot Youth Conservation Corps program in the Departments of Interior and Agriculture. p. D518

Received a GAO report on the effectiveness and administrative efficiency of the Neighborhood Youth Corps program in Grand Rapids, Mich. p. S6625

18. ENVIRONMENT. The "Daily Digest" states that the Interior and Insular Affairs Committee voted to report (but did not actually report) S. 1075, to provide for studies and research in connection with national policy on environmental quality. p. D518

Sen. Baker inserted an article, "Can Man Survive? In an Artificial Environment." pp. S6646-8

Sen. Nelson recommended that the Governors of Minn. and Wisc. "immediately initiate a request to the Secretary of the Interior that intrastate pollution be declared a matter of conference jurisdiction." pp. S6653-4

RURAL AMERICA. In speaking of rural job development Sen. Hruska discussed an example, "Vision-17... a private corporation devoted to the economic development of 17 counties in southeast Nebraska," and inserted an article stating that aid to rural areas has to come from individuals. pp. S6652-3

HOUSE

20. CIGARETTES. Passed with amendments H. R. 6543, to extend public health protection with respect to cigarette smoking (pp. H4939-64). Rejected an amendment by Sen. Cleveland to require the Secretary of Agriculture to report to the Congress on the financial assistance provided by the U. S. to the tobacco industry (pp. H4956-7). Rejected, 137-262, a motion to recommit the bill (p. H4964).

21. MILK. A subcommittee of the Agriculture Committee approved for full committee action H. R. 7996, to permanently extend the class I dairymen's base plan and authorize use of different base periods for allocating fluid milk utilization among farmers. p. D520

22. INTEREST RATES. Several Representatives debated the interest rate increase and Rep. Pickle announced that the Banking and Currency Committee will open investigations "to fathom the reasons why this Nation should suffer another increase." pp. H4965, H4965-6, H4966

23. TAXATION. Rep. Vanik expressed hope that every Member of the House who favors some alternative to the administration's tax proposal will advise the Rules Committee of the need for a rule which will permit an alternative vote. pp. H4966-7

Rep. Sisk called for a "tax reform package that has some meaning." p. H4967

Rep. Brown, Ohio, endorsed "tax incentives to industry if they install pollution control equipment." p. H4972

6. WATER RESOURCES. Both Houses received from Interior a proposed bill to authorize the Secretary of the Interior to engage in feasibility investigation of certain water resource developments; to Interior and Insular Affairs Committees. pp. H5021, S6625
7. BUILDINGS. Both Houses received from GSA a report on prospectuses which propose acquisition of space under a lease arrangement; to Public Works Committee pp. H5021 S6625
8. FLOOD CONTROL; WATERSHEDS. Sen. Burdick commended the Tongue River watershed project and inserted an article, "Taming the Tongue--No Flood Waters in This Watershed." pp. S6636-7
9. GREEN THUMB. Sen. Fulbright inserted the "First Quarterly Summary Report for 1969 of Green Thumb Activities." p. S6637
10. INTEREST RATES. Sen. McIntyre stated that "if...the recent increase in the prime rate is not reversed, we...may have to consider legislation placing interest charges under Federal control." p. S6652
11. PESTICIDES. Sen. Nelson commended the Huntington Town Board, L.I., N.Y., on its banning the use of DDT and other chlorinated hydrocarbons within the town. pp. S6656 9
12. EDUCATION. Sen. Nelson commended the decision of the Appropriations Committee to restore the \$16 million to the educational opportunity grant program. pp. S6661 3
13. TRAILS. Sen. Mondale commended the national trails system and inserted an article describing the recreational opportunities which the trails system provides. pp. S6668-70
14. INFORMATION; EXPOSITIONS. Passed without amendment S. 856, to provide for Federal Government recognition of and participation in international expositions proposed to be held in the U. S. pp. S6624-5
15. EXPORT CONTROL. The "Daily Digest" states that a subcommittee of the Banking and Currency Committee approved for full committee consideration an original bill in lieu of S. 1940 and S. 2390, to extend authority to regulate exports under the Export Control Act. p. D517
16. TRANSPORTATION; CLAIMS. The "Daily Digest" states that a subcommittee of the Commerce Committee approved for full committee S. 1653, to amend the Interstate Commerce Act with regard to recovery of a reasonable attorney's fee in case of successful maintenance of an action for recovery of damages sustained in transportation of property. p. D517

91ST CONGRESS
1ST SESSION

H. R. 12549

IN THE HOUSE OF REPRESENTATIVES

JULY 1, 1969

Mr. DINGELL (for himself, Mr. LENNON, Mr. PELLY, Mr. DOWNING, Mr. KEITH, Mr. KARTH, Mr. DELLENBACK, Mr. ROGERS of Florida, Mr. POLLOCK, Mr. HANNA, Mr. GOODLING, Mr. LEGGETT, Mr. McCLOSKEY, Mr. ANNUNZIO, Mr. FREY, and Mr. BIAGGI) introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

A BILL

To amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act is amended by
4 redesignating section 5A as section 5B and by inserting
5 immediately after section 5 the following new section:

6 “SEC. 5A. (a) The Congress, recognizing the profound
7 impact of man’s activity on the interrelations of all compo-
8 nents of the natural environment, both living and nonliving,

1 and the critical importance of restoring and maintaining
2 environmental quality to the overall welfare and development
3 of man, declares that it is the continuing policy of the Fed-
4 eral Government, in cooperation with State and local gov-
5 ernments, urban and rural planners, industry, labor, agri-
6 culture, science, and conservation organizations, to use all
7 practicable means and measures, including financial and tech-
8 nical assistance, in a manner calculated to foster and pro-
9 mote the general welfare, to create and maintain conditions
10 under which man and nature can exist in productive har-
11 mony, and fulfill the social, economic, and other require-
12 ments of present and future generations of Americans.

13 “(b) The President shall transmit to the Congress
14 annually beginning June 30, 1970, an Environmental Qual-
15 ity Report (hereinafter referred to as the ‘report’) which
16 shall set forth (1) the status and condition of the major
17 natural, manmade, or altered environmental classes of the
18 Nation, including, but not limited to, the air, the aquatic,
19 including marine, estuarine, and fresh water, and the ter-
20 restrial environment, including, but not limited to, the forest,
21 dryland, wetland, range, urban, suburban, and rural environ-
22 ment; and (2) current and foreseeable trends in manage-
23 ment and utilization of such environments and the effects
24 of those trends on the social, economic, and other require-
25 ments of the Nation.

1 “(c) (1) There is created in the Executive Office of
2 the President a Council on Environmental Quality (here-
3 after referred to as the “Council”). The Council shall be com-
4 posed of five members who shall be appointed by the Presi-
5 dent, by and with the advice and consent of the Senate, one
6 of whom the President shall designate as chairman, and
7 each of whom shall be a person who, as a result of his
8 training, experience, and attainments, is exceptionally qual-
9 ified to analyze and interpret environmental information of
10 all kinds, to appraise programs and activities of the Govern-
11 ment in the light of the policy set forth in subsection (a)
12 of this section, and to formulate and recommend national
13 policy to promote the improvement of our environmental
14 quality.

15 “(2) The Council may employ such officers and em-
16 ployees as may be necessary to carry out its functions under
17 this Act. In addition, the Council may employ and fix the
18 compensation of such experts and consultants as may be
19 necessary for the carrying out of its functions under this
20 section, in accordance with section 3109 of title 5, United
21 States Code (but without regard to the last sentence
22 thereof).

23 “(3) It shall be the duty and function of the Council—

24 “(A) to assist and advise the President in the prep-
25 aration of the Environmental Quality Report;

1 “(B) to gather timely and authoritative informa-
2 tion concerning the conditions and trends in environ-
3 mental qualities both current and prospective, to analyze
4 and interpret such information for the purpose of deter-
5 mining whether such conditions and trends are inter-
6 fering, or are likely to interfere, with the achievement
7 of the policy set forth in subsection (a) of this section,
8 and to compile and submit to the President studies
9 relating to such conditions and trends;

10 “(C) to appraise the various programs and activi-
11 ties of the Federal Government in the light of the
12 policy set forth in subsection (a) of this section for
13 the purpose of determining the extent to which such
14 programs and activities are contributing to the achieve-
15 ment of such policy, and to make recommendations to
16 the President with respect thereto;

17 “(D) to develop and recommend to the President
18 national policies to foster and promote the improve-
19 ment of environmental quality to meet social, economic,
20 and other requirements of the Nation; and

21 “(E) to make and furnish such studies, reports
22 thereon, and recommendations with respect to matters
23 of policy and legislation as the President may request.

24 “(4) The Council shall make an annual report to the
25 President in May of each year.

1 “(5) In exercising its powers, functions, and duties
2 under this section—

3 “(A) the Council shall consult with such repre-
4 sentatives of science, industry, agriculture, labor, con-
5 servation, organizations, State and local governments,
6 and other groups, as it deems advisable; and

7 “(B) the Council shall, to the fullest extent pos-
8 sible, utilize the services, facilities, and information
9 (including statistical information) of public and private
10 agencies and organizations, and individuals, in order
11 that duplication of effort and expense may be avoided.”

12 SEC. 2. (a) Section 5313 of title 5, United States Code,
13 is amended by adding at the end thereof the following:

14 “(20) Chairman, Council of Environmental Qual-
15 ity.”

16 (b) Section 5315 of title 5, United States Code, is
17 amended by adding, at the end thereof, the following:

18 “(92) Members, Council on Environmental Qual-
19 ity.”

91ST CONGRESS
1ST Session

H. R. 12549

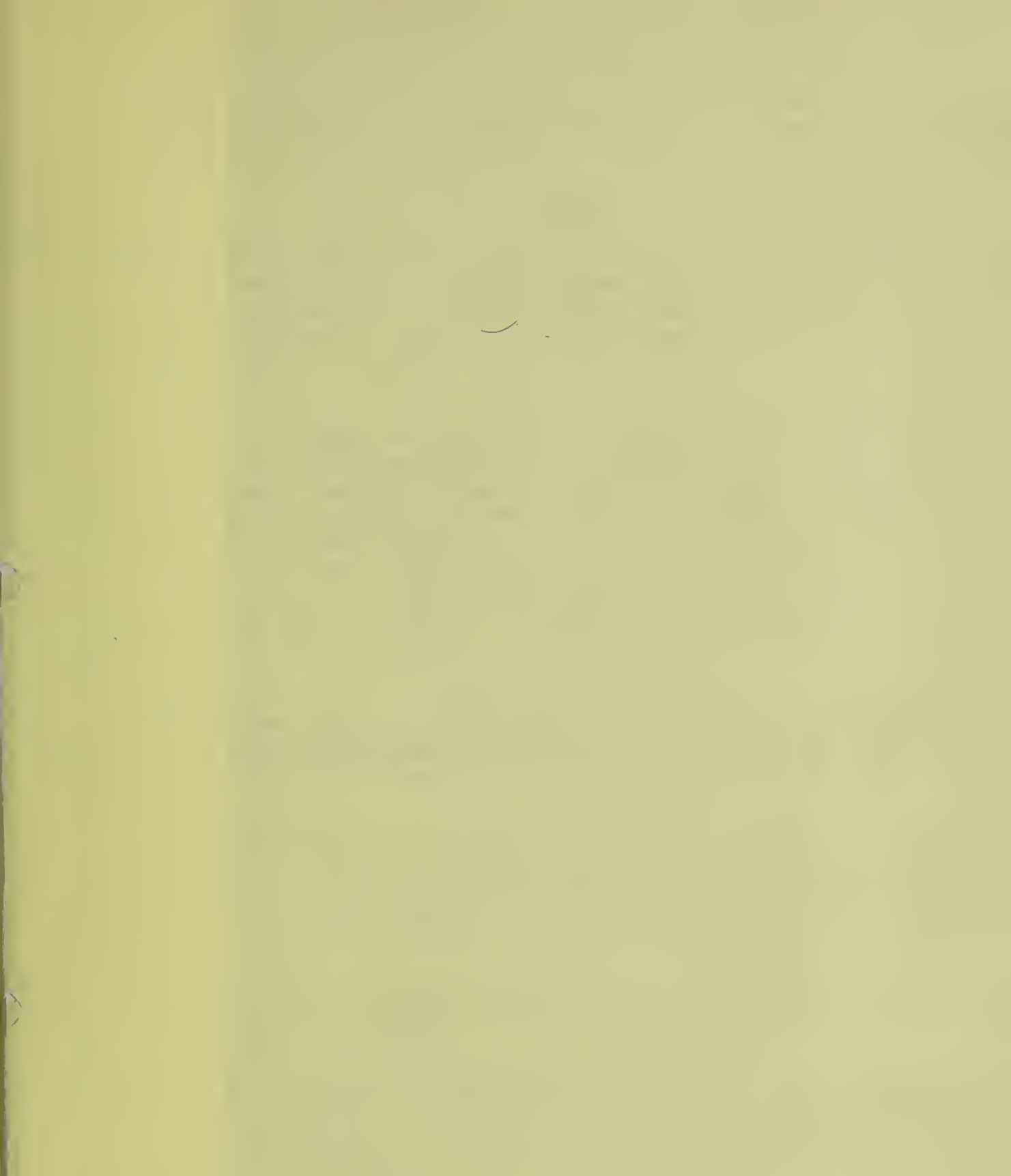
A BILL

To amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

By Mr. DINGELL, Mr. LENNON, Mr. PELLY, Mr. DOWNING, Mr. KEITH, Mr. KARTH, Mr. DELLENBACK, Mr. ROGERS of Florida, Mr. POLLOCK, Mr. HANNA, Mr. GOODLING, Mr. LEGGETT, Mr. McCLOSKEY, Mr. ANNUNZIO, Mr. FREY, and Mr. BIAGGI

JULY 1, 1969

Referred to the Committee on Merchant Marine and Fisheries



9. PESTICIDES. Rep. Podell inserted the text of his letter to the Secretary requesting the Federal Government to impose a temporary ban upon further manufacture, shipment, and use of DDT. p. H5796

SENATE

10. ENVIRONMENTAL QUALITY. The Interior and Insular Affairs Committee reported with amendments S. 1075, to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality (S. Rept. 91-296). p. S7726
11. JOB CORPS. Sen. Cranston commended Sen. Nelson's amendment to a bill to extend the Economic Opportunity Act to provide an effective context for establishing appropriate priorities for the utilization of abandoned job corps resources for public service programs and announced his intention to offer an amendment to Sen. Nelson's language to include "youth conservation work and other conservation programs." pp. S7748-50
Sen. Williams, N. J., inserted an editorial critical of "the additional expense of making buildings" at Camp Kilmer job training site "ready again." p. S7750
12. PESTICIDES. Sen. Nelson inserted an article which "traces DDT from its initial development and use...to its present threat" (pp. S7732-3) and a three-verse poem from an 11-year old constituent who expressed his concern about the use of DDT (p. S7733).
13. REGIONAL DEVELOPMENT. Sen. Eagleton commended the passage of the bill to authorize funds to carry out the purposes of the Appalachian Regional Development Act and the Public Works and Economic Development Act and called particular attention to the section which would authorize Commerce to designate "economic development regions." p. S7733
14. RECREATION. Sen. Yarborough inserted a resolution of the Department Club of Port Arthur, Tex., urging the creation of a 100,000 acre Big Thicket National Park, Tex.. p. S7733
15. CONSERVATION. Sen. Jackson commended Dr. Edward C. Crafts, former Assistant Chief of Forest Service, on his work in conservation fields and congratulated him upon his appointment as special articles editor for the American Forests magazine. pp. S7740-41
16. CLEAN WATER. Sen. Hansen inserted the remarks of Commissioner of the Federal Water Pollution Control Adm. Dominick on "what needs to be done by all sectors of government to achieve clean water." pp. S7741-2
17. TOBACCO. Sen. Hansen inserted a letter by a "nonsmoking" doctor which he stated "should cause some sober reflection on the fairness and merit of the proposed Federal restrictions on advertising by the tobacco industry." pp. S7743-44
18. POPULATION. Sen. Hart inserted a letter on the "critical problem of over-population." pp. S7751-52

EXTENSION OF REMARKS

19. FARM SUBSIDIES. Rep. Madden stated that "almost 90 percent of this annual \$3.5 billion aid bonanza (farm payments) goes to large farm operations which defeats the real intent of the Congress to give the small farmers aid and financial relief." pp. E5714-5
Rep. Gude inserted an article, "Subsidies to 10,000 Richest Farms Exceed U. S. Funds for Housing Poor." p. E5746
20. LANDS. Rep. Miller, Calif., inserted a speech, "Organizing for Public Action to Resolve Arid Lands Problems." pp. E5720-2
21. CENSUS. Rep. Olsen inserted Asst. Secretary of Commerce Chartener's address presenting his views on the 1970 census. pp. E5725-8
22. EDUCATION. Rep. Pucinski inserted testimony in support of appropriations for vocational technical education programs. pp. E5728-35
23. EMPLOYMENT. Rep. Ayres commended Labor Secretary Shultz' "promptness" in attacking the problem of job training. pp. E5738-9
24. ENVIRONMENT; POLLUTION. Rep. Reuss inserted a Citizens Crusade for Clean Water asking that the full \$1 billion authorized for sewage treatment plants be granted in fiscal year 1970. p. E5740
Rep. Dingell asked for immediate consideration of legislation to establish a Council on Environmental and Population Advisors. pp. E5761-2
25. TAX SURCHARGE. Rep. Miller, Ohio, said that an extended tax surcharge is necessary along with reduced Government expenditures. p. E5743
26. ECONOMICS. Rep. Cohelan inserted an article, "Failures and Successes of Economics." pp. E5743-5
27. TIMBER SUPPLY. Rep. Dingell inserted an article pointing out "several problems meriting consideration with regard to timber supply, national parks, and similar conservation matters." pp. E5748-9
28. PACKERS AND STOCKYARDS. Rep. Zwach discussed his proposed bill to amend the Packers and Stockyards Act and stated that "The revisions that I have suggested are not all inclusive and they deal primarily with the problem of assuring the producer payment for his livestock that he sells through packers." pp. E5719-20

BILLS INTRODUCED

29. WATER RESOURCES. S. 2572 by Sen. Cannon, to authorize the Secretary of the Interior to engage in a feasibility study of the Amargosa Project, Nevada and Calif: to Interior and Insular Affairs Committee. Remarks of author pp. S7726-7.
S. 2573 by Sen. Bible, to authorize the Secretary of the Interior to engage in feasibility investigations of certain water resource developments; to Interior and Insular Affairs Committee. Remarks of author p. S7727.

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NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

JULY 9, 1969.—Ordered to be printed

Mr. JACKSON, from the Committee on Interior and Insular Affairs, submitted the following

REPORT

[To accompany S. 1075]

The Committee on Interior and Insular Affairs, to which was referred the bill (S. 1075) to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

The amendments are as follows:

Strike out all after the enacting clause and insert the following language:

SHORT TITLE

SEC. 1. That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisers.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances on our physical and biological surroundings and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Govern-

ment to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations, and public laws of the United States to the fullest extent possible, be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal Government—

(a) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(b) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(c) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a finding by the responsible official that—

(i) the environmental impact of the proposed action has been studied and considered;

(ii) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by other stated considerations of national policy;

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and that

(iv) any irreversible and irretrievable commitments of resources are warranted.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water, or air;

(e) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

(f) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress such measures as may be necessary to make their authority consistent with this Act.

SEC. 103. The policies and goals set forth in this Act are supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

TITLE II

SEC. 201. To carry out the purposes of this Act, all agencies of the Federal Government in conjunction with their existing programs and authorities, are hereby authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other

information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(d) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(e) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(f) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Federal agencies; and

(g) to assist the Board of Environmental Quality Advisers established under title III of this Act and any council or committee established by the President to deal with environmental problems.

SEC. 202. (a) In carrying out the provisions of this title, the President is authorized to designate an agency or agencies to—

(1) make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act;

(2) develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(3) establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; and

(4) assist and advise State and local government, and private enterprise in bringing their activities into conformity with the purposes of this Act and other Acts designed to enhance the quality of the environment.

(b) There are hereby authorized to be appropriated \$500,000 annually for fiscal years 1971 and 1972, and \$1,000,000 for each fiscal year thereafter.

SEC. 203. In recognition of the additional duties which the President may assign to the Office of Science and Technology to support any council or committee established by the President to deal with environmental problems and in furtherance of the policies established by this Act, there is hereby established in the Office of Science and Technology an additional office with the title "Deputy Director of the Office of Science and Technology." The Deputy Director shall be appointed by the President by and with the advice and consent of the Senate, shall perform such duties as the Director of the Office of Science and Technology shall from time to time direct, and shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

TITLE III

SEC. 301. (a) There is created in the Executive Office of the President a Board of Environmental Quality Advisers (hereinafter referred to as the "Board"). The Board shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Board from such members.

(b) Members of the Board shall serve full time and the Chairman of the Board shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Board shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 302. (a) The primary function of the Board shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Board shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice, assistance, and staff support to the President on the formulation of national policies to foster and promote the improvement of environmental quality; and

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment and make recommendations thereon to the President.

(c) It shall be the duty and function of the Board to assist and advise the President in the preparation of the annual environmental quality report required under section 303.

(d) The Board and the Office of Science and Technology shall carry out their duties under the provisions of this Act at the direction of the President and shall perform whatever additional duties he may from time to time direct.

SEC. 303. The President shall transmit to the Congress, beginning June 30, 1970, an annual environmental quality report which shall set forth: (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 304. The Board may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Board may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 305. There are hereby authorized to be appropriated \$1,000,000 annually to carry out the purposes of this title.

Amend the title so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."

INTRODUCTION

It is the unanimous view of the members of the Interior and Insular Affairs Committee that our Nation's present state of knowledge, our established public policies, and our existing governmental institutions are not adequate to deal with the growing environmental problems and crises the Nation faces.

The inadequacy of present knowledge, policies, and institutions is reflected in our Nation's history, in our national attitudes, and in our contemporary life. We see increasing evidence of this inadequacy all around us: haphazard urban and suburban growth; crowding, congestion, and conditions within our central cities which result in civil unrest and detract from man's social and psychological well-being; the loss of valuable open spaces; inconsistent and, often, incoherent rural and urban land-use policies; critical air and water pollution problems; diminishing recreational opportunity; continuing soil erosion; the degradation of unique ecosystems; needless deforestation; the decline and extinction of fish and wildlife species; faltering and poorly designed transportation systems; poor architectural design and ugliness in public and private structures; rising levels of noise; the continued proliferation of pesticides and chemicals without adequate consideration of the consequences; radiation hazards; thermal pollution; an increasingly ugly landscape cluttered with billboards, powerlines, and junkyards; and many, many other environmental quality problems.

Traditional national policies and programs were not designed to achieve these conditions. But they were not designed to avoid them either. And, as a result, they were not avoided in the past. They are not being avoided today.

Traditional policies were primarily designed to enhance the production of goods and to increase the gross national product. As a nation, we have been very successful at these endeavors. Our gross national product is approaching \$900 billion a year. The American people enjoy the highest standard of living in the world. Our technological ability is unrivaled. But, as a nation, we have paid a price for our material well-being. That price may be seen today in the declining quality of the American environment.

As the evidence of environmental decay and degradation mounts, it becomes clearer each day that the Nation cannot continue to pay the price of past abuse. The costs of air and water pollution, poor land-use policies and urban decay can no longer be deferred for payment by future generations. These problems must be faced while they are still of manageable proportions and while alternative solutions are still available.

If the United States is to create and maintain a balanced and healthful environment, new means and procedures to preserve environmental values in the larger public interest, to coordinate Government activities that shape our future environment, and to provide guidance and incentives for State and local government and for private enterprise must be devised.

In spite of the growing public recognition of the urgency of many environmental problems and the need to reorder national goals and priorities to deal with these problems, there is still no comprehensive national policy on environmental management. There are limited policies directed to some areas where specific problems are recognized to exist, but we do not have a considered statement of overall national goals and purposes.

As a result of this failure to formulate a comprehensive national policy, environmental decisionmaking largely continues to proceed as it has in the past. Policy is established by default and inaction. Environmental problems are only dealt with when they reach crisis proportions. Public desires and aspirations are seldom consulted. Important decisions concerning the use and the shape of man's future environment continue to be made in small but steady increments which perpetuate rather than avoid the recognized mistakes of previous decades.

Today it is clear that we cannot continue on this course. Our natural resources—our air, water, and land—are not unlimited.¹ We no longer have the margins for error that we once enjoyed. The ultimate issue posed by shortsighted, conflicting, and often selfish demands and pressures upon the finite resources of the earth are clear. As a nation, and as a world, we face these conditions:

A population which is doubling at increasingly shorter intervals;
 Demands for resources which are growing at a far greater rate than population; and

¹ An excellent up-to-date assessment of our present resource posture has been prepared by the Committee on Resources and Man, National Academy of Sciences-National Research Council. The summary of findings and recommendations is presented as appendix 1 of the hearings before the Senate Interior Committee, "National Environmental Policy," Apr. 16, 1969.

A growing technological power which is far outstripping man's capacity to understand and ability to control its impact on the environment.

The committee believes that America's capacity as a nation to confront these conditions and deal more effectively with the growing list of environmental hazards and problems resulting from these conditions can be improved and broadened if the Congress clarifies the goals, concepts, and procedures which determine and guide the programs and the activities of Federal agencies. Moreover, this can be done with the reasonable prospect that State, local, and private action will also be favorably influenced.

The committee is aware, as are other committees of both Houses which handle environmental legislation, that it is extremely difficult in our increasingly complex Government to achieve coordinated responses among the numerous Federal agencies² (aside from private enterprise and State and local agencies) involved in the multiple uses of our Nation's natural resources unless there are established common approaches to determine what actions are necessary to advance the public interest in healthful and quality surroundings. To provide a basis for advancing the public interest, a congressional statement is required of the evolving national objectives of managing our physical surroundings, our land, air, water, open space, and other natural resources and environmental amenities.

In view of this situation, the committee considered, amended and reported S. 1075 to the floor of the Senate.

EXPLANATION OF AMENDMENTS

The committee amended the bill by striking all after the enacting clause, substituting a new text, and amending the title of the bill.

The revised text adopts a number of changes which were suggested to the committee by the administration, representatives of the executive agencies, public witnesses, and committee members during consideration of the bill. The major changes are as follows:

1. A new short title, the "National Environmental Policy Act of 1969" has been added to the bill.

2. The statement of purpose has been revised to reflect amendments adopted by the committee.

3. A new title I which is designated "Declaration of National Environmental Policy," has been added. The new title consists of a congressional recognition of man's dependence upon the environment and a congressional declaration of Federal policy to use "all practicable means consistent with other essential considerations of national policy" to improve and coordinate all Federal activities to the end that certain broad national goals in the management of the environment may be attained. The broad national goals are set out in subsections 101(a) (1) through (6).

Section 101(b) provides a congressional recognition of each person's right to a healthful environment and of each person's responsibility to contribute to the enhancement of the environment.

Section 102 authorizes and directs that the policies, regulations, and public laws of the United States be interpreted and administered in

² A recent analysis conducted by the staff of the Senate Interior Committee showed that environmental programs are presently administered by 63 Federal agencies located within 10 of the 13 departments as well as 16 independent agencies of the executive branch.

accordance with the policies set forth in the act. This section also directs all Federal agencies to follow certain procedures and operating principles in carrying out their program activities. These procedures and operating principles are set out in subsections 102 (a) through (f). They authorize and direct the Federal agencies to utilize an interdisciplinary approach in planning and decision making; to develop procedures to insure that presently unquantified environmental values and amenities are given appropriate consideration; to include in legislative reports and recommendations for major Federal actions certain findings related to the environment; to develop appropriate alternatives to recommended courses of action involving unresolved environmental conflicts; to support appropriate activities designed to deal with international environmental problems; and to review and report upon present authority, policy, and procedures for conformity to the purposes of this act.

Section 102 provides that the policies and goals set forth in the act are supplemental to the existing mandates and authorizations of all Federal agencies.

4. Title I of S. 1075 as introduced, is now title II of S. 1075 as reported. As amended, title II authorizes all agencies of the Federal Government to conduct ecological research and surveys in conjunction with their existing programs and authorities. In S. 1075 as introduced, this authority was limited to the Secretary of the Interior. The express authority granted to the Federal agencies is set out in subsections 201 (a) through (g).

Section 202, as amended, authorizes the President to designate an agency or agencies to make grants, including training grants, to carry out the purposes of title II. In S. 1075, as introduced, this authority was granted to the Secretary of the Interior. The amendment reflects the committee's judgment that the President should have the authority to designate the lead agency or agencies to carry out the provisions of section 202. The committee added a limitation on the appropriation authorization in the amounts of \$500,000 annually for fiscal years 1971 and 1972, and \$1,000,000 for each year thereafter.

In recognition of the additional duties in the field of environmental administration which have been delegated to the Office of Science and Technology and to further the policies set forth in the act, section 203 authorizes the establishment of an additional position with the title "Deputy Director" in the Office of Science and Technology.

5. Title II of S. 1075, as introduced, was redesignated as title III of S. 1075 as reported. The name of the "Council" was changed to the "Board" of Environmental Quality Advisers. This change was made to avoid confusion with the interagency cabinet-level Council on Environmental Quality which the administration recently established by Executive order.

A new subsection 301(b) established the compensation to be paid members of the Board. A new subsection 302(d) provides that both the Board and the Office of Science and Technology shall carry out their duties under this act pursuant to the overall direction of the President. The committee also placed a limitation of \$1 million on the annual appropriation authorization for the Board of Environmental Quality Advisers.

PURPOSE

The purpose of S. 1075, the National Environmental Policy Act of 1969, is to establish, by congressional action, a national policy to guide Federal activities which are involved with or related to the management of the environment or which have an impact on the quality of the environment.

Recent years have witnessed a growing public concern for the quality of the environment and the manner in which it is managed. The cause of this concern appears to be twofold: First, the evidence of environmental mismanagement is accumulating at an ever-increasing rate as a result of population growth, increased pressures on a finite resource base, and advancing technological developments which have enlarged man's capacity to effectuate environmental change. Second, the American people—as a result of growing affluence, more leisure time, and a recognition of the consequences of continuing many present environmental trends—are placing a much higher value on the quality of the environment and their surroundings than ever before.

The public's growing concern has figured prominently in many different areas of Federal activity. Most often it is seen in the form of citizen indignation and protest over the actions or, in some cases, the lack of action of Federal agencies. Examples of the rising public concern over the manner in which Federal policies and activities have contributed to environmental decay and degradation may be seen in the Santa Barbara oil well blowout; the current controversy over the lack of an assured water supply and the impact of a super-jet airport on the Everglades National Park; the proliferation of pesticides and other chemicals; the indiscriminate siting of steam fired powerplants and other units of heavy industry; the pollution of the Nation's rivers, bays, lakes, and estuaries; the loss of publicly owned seashores, open spaces, and other irreplaceable natural assets to industry, commercial users, and developers; rising levels of air pollution; federally sponsored or aided construction activities such as highways, airports, and other public works projects which proceed without reference to the desires and aspirations of local people.

S. 1075 is designed to deal with many of the basic causes of these increasingly troublesome and often critical problems of domestic policy. A primary purpose of the bill is to restore public confidence in the Federal Government's capacity to achieve important public purposes and objectives and at the same time to maintain and enhance the quality of the environment. It is the Committee's belief that S. 1075 will also provide a model and a demonstration to which State governments may look in their efforts to reorganize local institutions and to establish local policies conducive to sound environmental management. This objective is of great importance because many of the most serious environmental problems the Nation faces are within the scope and, often, within the exclusive jurisdiction of State action and State responsibility.

S. 1075 is also designed to deal with the long-range implications of many of the critical environmental problems which have caused great public concern in recent years. The challenge of environmental management is, in essence, a challenge of modern man to himself. The principal threats to the environment and the Nation's life support system are those that man has himself induced in the pursuit of material wealth,

greater productivity, and other important values. These threats—whether in the form of pollution, crowding, ugliness, or in some other form—were not achieved intentionally. They were the spinoff, the fallout, and the unanticipated consequences which resulted from the pursuit of narrower, more immediate goals.

The purpose of S. 1075 is, therefore, to establish a national policy designed to cope with environmental crisis, present or impending. The measure is designed to supplement existing, but narrow and fractionated, congressional declarations of environmental policy.

The "National Environmental Policy Act of 1969" would contribute to a more orderly, rational, and constructive Federal response to environmental decisionmaking in five major ways. These are briefly set out below:

1. Management of the environment is a matter of critical concern to all Americans. Virtually every agency of the Federal Government plays some role in determining how well the environment is managed. Yet, many of these agencies do not have a mandate, a body of law, or a set of policies to guide their actions which have an impact on the environment. In fact, the authorizing legislation of some agencies has been construed to prohibit the consideration of important environmental values.

Section 101 of S. 1075 rectifies this by providing a congressional declaration that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal planning and activities to the end that certain broad national goals in the management of the environment may be attained.

2. A statement of national policy for the environment—like other major policy declarations—is in large measure concerned with principle rather than detail; with an expression of broad national goals rather than narrow and specific procedures for implementation. But, if goals and principles are to be effective, they must be capable of being applied in action. S. 1075 thus incorporates certain "action-forcing" provisions and procedures which are designed to assure that all Federal agencies plan and work toward meeting the challenge of a better environment.

3. One of the major factors contributing to environmental abuse and deterioration is that actions—often actions having irreversible consequences—are undertaken without adequate consideration of, or knowledge about, their impact on the environment. Section 201 seeks to overcome this limitation by authorizing all agencies of the Federal Government, in conjunction with their existing programs and authorities, to conduct research, studies, and surveys related to ecological systems and the quality of the environment. This section also authorizes the agencies to make this information available to the public, to assist State and local government, and to utilize ecological information in the planning and development of resource-oriented projects.

Recognizing the leading role which the President has delegated to the Office of Science and Technology for the coordination of Federal activities in the area of environmental administration, the committee has adopted provisions designed to assist and strengthen this office.

The committee also authorizes the President to designate one or more lead agencies to carry out a grant program, to maintain an inventory of development projects which make significant environmental modifications, to establish a data collection system, and to assist State and local governments.

4. Title III establishes an independent, high-level, three-member Board of Environmental Quality Advisers in the Executive Office of the President. The Board is patterned very closely after the Council of Economic Advisers which was established by the Full Employment Act of 1946.

The Board's function is to provide a continuing study and analysis of environmental trends and the factors which affect these trends, and to relate each area of study and analysis to the social, economic, health, and conservation goals of the Nation. The Board will provide an overview of how effectively the Nation is maintaining a quality environment for future and present generations. In addition, it will be uniquely equipped to serve an early warning function by identifying emerging environmental problems at an early date so that proper responses may be prepared before situations reach crisis proportions and before the costs of dealing with problems grow large.

The Board would also strengthen the Office of the President by providing advice, assistance, and staff support on the formulation of national policies and other measures to improve the quality of the environment. In addition, the Board would assist the President in the preparation of an annual environmental quality report.

5. Section 303 requires the President to submit to the Congress an annual environmental quality report on the current status and condition of the major natural, manmade, and altered environmental systems of the Nation. In addition, the report is to identify current and foreseeable trends in quality, management, and the utilization of these environmental systems and the effects of these trends on the social, economic, and other requirements of the Nation.

At present, there is no report available which summarizes and brings together in one convenient place an authoritative and periodic statement on the status of the environment. Instead, there are hundreds of reports which deal with some small aspect of environmental management. More often than not these are technical in nature and do not provide meaningful measures of how well the Nation is meeting environmental goals and objectives. The annual report required by S. 1075 would provide a baseline and a periodic objective statement of national progress in achieving a quality environment for present and future generations of Americans.

BACKGROUND

Legislative history

S. 1075, the National Environmental Policy Act of 1969, was introduced in the 91st Congress on February 18, 1969, by Senator Jackson. Hearings on this and two related bills introduced by Senators Nelson (S. 1752) and McGovern (S. 237) were held on April 16, 1969,

before the full Committee on Interior and Insular Affairs.³ Following a staff study and consultations with the staff of the Office of Science and Technology and with representatives of a number of the Federal departments, the committee considered S. 1075 in executive session on June 18, 1969. Following the adoption of a number of committee amendments, the measure was ordered reported to the Senate on June 18, 1969. At the request of the Director of the Office of Science and Technology and representatives of the Bureau of the Budget, the committee voted, on July 8, 1969, to reconsider the measure for the purpose of considering additional amendments. The amendments were proposed by the Bureau of the Budget in a July 7, 1969, letter to the chairman of the committee. The proposed amendments to titles I and II of S. 1075 were adopted. Amendments proposed to title III by the Bureau of the Budget were adopted in part and rejected in part. Following the adoption of other amendments suggested by members of the committee, the measure was ordered reported to the Senate on July 8, 1969.

S. 1075, as introduced, was substantially the same measure as S. 2805 which was introduced in the 90th Congress on December 15, 1967, by Senators Jackson and Kuchel. The far-reaching objectives of S. 2805 and similar legislation introduced in the 90th Congress by Members of both Houses were considered at a unique joint House-Senate colloquium convened by the chairmen of the Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics on July 17, 1968, to discuss a national policy for the environment.⁴

Many of the concepts and ideas incorporated in S. 1075 were drawn from ambitious measures introduced in previous Congresses. Of particular relevance were S. 2549, the Resources and Conservation Act, introduced by Senator Murray in 1959 and S. 2282 introduced by Senator Nelson in the 89th Congress. The Murray bill, endorsed by a distinguished group of Senators in the 86th and subsequently in the 87th Congress, called for the establishment of more efficient machinery in the President's Office to coordinate resource conservation on the

³ National environmental policy, hearings held before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong., first sess., on S. 1075, S. 1752, and S. 237, Apr. 16, 1969. S. 1752, as introduced by Senator Nelson, would create a five-member Council on Environmental Quality in the Office of the President. This Council would be responsible for assisting the President in preparing an annual environmental quality report which would be transmitted to Congress. The report would be reviewed by a Joint Committee on Environmental Quality. The measure would also authorize the Secretary of the Interior to conduct studies of the natural environment, evaluate and disseminate such information, and consult with and provide technical assistance to departments and agencies of the Government.

S. 237, as introduced by Senator McGovern, would require that the President transmit to the Congress an annual report on the state of the environment. The measure would also authorize the creation of a Council of Advisers on Resources, Conservation, and the Environment which would be in the Executive Office of the President. The three-member Council would assist the President in the preparation of the annual report and in developing and recommending national policies to maintain and improve the environment. For the purpose of consideration of the annual report and plan, this bill would establish in the Senate and the House, special committees to be known as the Select Committees on Resources, Conservation, and Environment.

⁴ The proceedings were published under the title: "Joint House-Senate Colloquium To Discuss a National Policy for the Environment," hearing before the Committee on Interior and Insular Affairs, U.S. Senate, and the Committee on Science and Astronautics, U.S. House of Representatives, 90th Cong., 2d sess., July 17, 1968.

Following the colloquium, a "Congressional White Paper" was prepared at the request of Cochairman Henry M. Jackson and George Miller by the Legislative Reference Service, Library of Congress. This document, issued as a joint committee print by the Senate Interior Committee and House Science and Astronautics Committee and distributed to the entire Congress in October 1968, summarized the key points raised in the dialog between Members of the Congress and the colloquium participants which included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurance Rockefeller, and Dean Don K. Price of Harvard.

A special report to the Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use and was printed as a committee print on July 11, 1968. The report was prepared by Dr. Lynton K. Caldwell of Indiana University and William J. Van Ness, special counsel to the committee. The report was used as a background document for the colloquium. It raises and discusses in detail many of the issues and questions implicit in establishing a national environmental policy.

basis of national goals. The Nelson bill included broad provisions to cope with inadequate use and application by Federal agencies of ecological knowledge and research methods for attaining better management of our physical environment. Extensive hearings were held on each of these and other environmental measures before the Senate Interior Committee.⁵

Other concepts and ideas incorporated into S. 1075 were drawn from the proceedings of the previously mentioned joint House-Senate colloquium, from technical reports, conferences and symposia, and from books and journals dealing with environmental problems.⁶

In addition, the committee has reviewed and drawn upon concepts and ideas incorporated into many measures introduced in this and previous Congresses related to various aspects of environmental management.⁷

Need for the measure

This committee has compiled a great deal of testimony demonstrating instances of shortcomings, problems, and even national crises arising in many respects from the inadequacies of the Nation's environmental management policies and practices. Similar evidence has been compiled by other congressional committees and is a recurrent topic in the news media and in popular and technical publications.

Extensive collections of commentary regarding specific examples of environmental problems along with commentary by recognized spokesmen and authorities in the field have been published by this committee in the transcripts of the joint House-Senate colloquium to discuss a national policy for the environment (90th Cong., second sess.), in the hearing on a national environmental policy (91st Cong., first sess.), and elsewhere.⁸ The latter document includes an appendix entitled "Bibliography on Environmental Issues," which lists numerous books, papers, articles, and other published material dealing with the critical problems of the environment.

It would be impracticable to attempt a summary of this voluminous data in this report. Drawing upon the testimony presented to this and other committees, however, the committee believes that the following basic propositions summarize the situation of contemporary America and the Federal Government regarding the management of the environment:

⁵ Proposed Resources and Conservation Act of 1960, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 86th Cong., second sess. on S. 2549, Jan. 25, 26, 28, and 29, 1960. Ecological Research and Surveys, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 89th Cong., second sess., April 27, 1966, on S. 2282.

⁶ For a detailed listing of these documents see app. A, entitled "A Documentation on Environmental Problems," p. 25, in *A National Policy for the Environment*, committee print, Senate Interior and Insular Affairs Committee, July 11, 1968; see also the "Bibliography on Environmental Issues," pp. 192-204 in *National Environmental Policy*, hearing before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong. on S. 1075, S. 237, and S. 1752, Apr. 16, 1969.

⁷ In the closing days of the 90th Cong., the Legislative Reference Service tabulated over 100 bills which were directly concerned with environmental issues, covering a broad area of interest—cleaning up the Nation's rivers and better approaches to smog control, improving the use of open space and prevention of disorderly encroachment by superhighways, factories and other developments, improved protection of areas of high fertility, wiser application of pesticides, whose residues affect both man and wildlife, and the control of urban sprawl, unsightly junkyards, billboards, and power facilities that lower the amenities of landscape.

In the present Congress, an initial tabulation indicates that over 40 bills have been introduced which are concerned either with a national policy for the environment or the establishment of machinery to study the overall problems of the human environment. Of the 16 standing committees of the Senate, eight have broad jurisdiction of this type of legislation. Of the 21 House standing committees, 11 are similarly involved. See "A National Policy for the Environment," app. B, p. 29, committee print of the Senate Interior and Insular Affairs Committee, July 11, 1968; "Congressional White Paper on A National Policy for the Environment," app. p. 17, Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics, October 1968; and Legislative Reference Service Multilith, TP 450, SP 170 entitled "Environmental Quality: Selected Bills and Resolutions," June 20, 1969.

⁸ See, for example, "Selected Excerpts on Environmental Management Policy," in the Congressional Record, Feb. 6, 1968, by Senator Jackson, and the committee publications cited in previous footnotes.

1. Population growth and increasing per capita material demands are placing unprecedented pressures upon a finite resource base.

2. Advancing scientific knowledge and technology have vastly enlarged man's ability to alter the physical environment.

3. The combination of the foregoing conditions presents a serious threat to the Nation's life support system. The pursuit of greater material wealth and increased productivity, the quest for scientific knowledge, and the requirements of worldwide responsibilities have had unplanned and often unforeseen consequences in the form of resource depletion, pollution, ill conceived urbanization, and other aspects of environmental degradation.

4. The attainment of effective national environmental management requires the Nation's endorsement of a set of resource management values which are in the long-range public interest and which merit the support of all social institutions. The Federal role will involve in some measure nearly every Federal agency. Successful Federal leadership in environmental management must be based upon the best possible information and analyses concerning the status and trends of environmental conditions. Federal action must rest upon a clear statement of the values and goals which we seek; in short, a national environmental policy.

There is no general agreement as to how critical the Nation's present environmental situation has become. Some respected scholars insist that a number of crises already exist. Others maintain that there is yet time to prevent them. There is nearly unanimous agreement, however, that action is needed and that, at least in some instances, dangerous conditions exist.

The Senate Interior and Insular Affairs Committee has not concluded that the complex environmental problems we face are susceptible of easy solution. It is however, clear that the Congress cannot disavow its responsibility to establish basic policies and to exercise supervisory powers over the agencies it has created. The Senate Committee on the Judiciary stated this responsibility clearly:

Policymaking is not a function that can be performed properly by a small group of appointed officials, no matter how able or well intentioned. Only in Congress, where the Members are directly answerable to the electorate, can competing political interests be adequately represented and properly accommodated.

In gathering testimony on various aspects of national environmental policy over the past decade, the Senate Interior Committee has received broad support and encouragement from diverse segments of American society—from the scientific community, the universities, business and labor, and from public affairs groups. The committee believes that it is necessary to move ahead to define the "environmental" desires of the American people in operational terms that the President, Government agencies at all levels, the courts, private enterprise, and the public can consider and act upon.

RELATIONSHIP OF S. 1075 TO EXISTING POLICIES AND INSTITUTIONS

Existing policies

Congress over the past decade has passed a procession of landmark conservation measures on behalf of recreation and wilderness, national

recreational planning, national water planning and research, wilderness preservation, review of public land policies, establishment of a system of national trails and a system of national scenic rivers, air and water pollution control, noise abatement, preservation of endangered wildlife, urban planning for open space, oceanography, beautification of highways, protection of shorelines and estuaries, and other related areas. Many of these measures originated in the Senate Interior and Insular Affairs Committee.⁹ Others originated in other committees of both the Senate and House. All of them, in specific and specialized ways, constitute congressional mandates on various aspects of environmental policy. Taken together, these measures provide an impressive record of congressional action and concern.

Nevertheless, on the basis of recent hearings, seminars, colloquia, and staff studies conducted by the committee, it is clear that there is very real reason for concern for those areas in which no policies have been established or in which the conflicting operational policies of different agencies are frustrating and complicating the achievement of environmental quality objectives which are in the interest of all. Many older operating agencies of the Federal Government, for example, do not at present have a mandate within the body of their enabling laws to allow them to give adequate attention to environmental values. In other agencies, especially when the expenditure of funds is involved, an official's latitude to deviate from narrow policies or the "most economical alternative" to achieve an environmental goal may be strictly circumscribed by congressional authorizations which have overlooked existing or potential environmental problems or the limitations of agency procedures. There is also reason for serious concern over the activities of those agencies which do not feel they have sufficient authority to undertake needed research and action to enhance, preserve, and maintain the qualitative side of the environment in connection with development activities.

S. 1075, as reported by the committee, would provide all agencies and all Federal officials with a legislative mandate and a responsibility to consider the consequences of their actions on the environment. This would be true of the licensing functions of independent agencies as well as the ongoing activities of the regular Federal agencies.

In addition, by providing a statement of national environmental goals, policies, and procedures, S. 1075 would give renewed and vigorous emphasis to the importance of existing environmental programs and legislation.

The problem of providing for better Federal environmental management practices is not totally caused by the lack of a policy. As noted earlier, there are many specific and specialized legislative policies on some aspects of the environment. The present problem also involves the need to rationalize and better coordinate existing policies and to provide means by which they may be continuously reviewed to determine whether they meet the overall goal of a quality life in a quality environment for all Americans.

⁹ See for example, "A Brief Presentation of the Committee's History and Jurisdiction, and A Summary of its Accomplishments During the 90th Congress," committee print, Committee on Interior and Insular Affairs, U.S. Senate, 90th Cong., 2d Sess.

See, also the existing legislation which affects coordination of Federal, air quality, water quality, solid waste disposal, and related public works projects cited in S. 2391, introduced by Senator Muskie and others on June 12, 1969.

Titles II and III of S. 1075 provide coordinating and oversight measures which are designed to insure that a coordinated Federal response to the problems of environmental management are prepared. ✓

Existing Institutions

The Federal Government, at present, is not well structured for the administration of complex environmental issues or to offer meaningful alternatives to past methods of coping with environmental problems.¹⁰ Compensatory measures have been sought through interagency agreements and understandings which require joint consultation and planning in specified cases of natural resources administration.¹¹

While this represents an improvement in some areas of environmental administration and policymaking, the compensatory measures are more in the nature of palliatives than basic reforms, more in the nature of administrative statesmanship rather than basic policy determinations. In effect, they treat the symptoms rather than the basic problems.

Functions of oversight and assessment, insofar as they are presently fulfilled, are vested with a number of committees of the Congress and with the Bureau of the Budget. Budget's concern has proven to be more fiscal than policy oriented. The segmented committee structure of Congress, coupled with inadequate time and staff to survey the broad range of environmental quality problems, make it improbable that all of the committees of Congress will, or can be expected to, provide a continuous and informed substitute for legislation through which a comprehensive environmental public policy can be developed and applied.¹²

The present administration has recognized that dealing with complex environmental questions requires the establishment of a focal point for the consideration of environmental values within the Federal Government. On June 3, 1969, President Nixon established by Executive Order 11472 an interagency Environmental Quality Council to be composed of six Cabinet officers and to be chaired by himself. The Executive order also established a Citizens' Advisory Committee on Environmental Quality, revoked a number of prior Executive orders, and delegated certain staff functions to the Director of the Office of Science and Technology.

During the April 16 hearings on S. 1075, members of the Committee expressed approval of the announcement by the Secretary of the Interior and the President's science adviser of the President's intent to establish this interagency Council on the environment. There was general agreement that the Council could be effective in dealing with environmental problems which were of concern to more than one Department of the Federal Government and which required "action."

Many members of the Committee did, however, question whether an interagency council alone could provide the objective and impartial advice and adversary support the President needs in dealing with environmental problems.

¹⁰ This deficiency has been thoroughly discussed in two documents of the National Academy of Sciences: Paul Weiss, "Renewable Resources: A Report to the Committee on Natural Resources" (NAS-NRC Publ. No. 100A, 1962; "Resources and Man," NAS-NRC. (In press.) Also see Lynton K. Caldwell, "Administrative Possibilities for Environmental Control," in *The Future Environments of North America* (Natural History Press, 1966), and the hearings on S. 1075.

¹¹ The inadequacies of such compensatory measures are discussed in the following: Stephen K. Bailey, "Managing the Federal Government," in *Agenda for the Nation*, (Brookings Institution, 1968).

¹² This fundamental issue was fully discussed in the "Congressional White Paper on a National Policy for the Environment," op. cit.

Senator Jackson, in a dialog with Dr. DuBridge, noted that—

* * * the advice, with all due respect, that the President would receive from the departments will be advice that will not be adverse to them. It will be compromised advice. This has been the history of the agencies. It is hard for the President to get objective advice. This is why the Bureau of the Budget plays such an important role. This is why your office [Office of Science and Technology] plays an important role. You have science in every department of the Government, and the President really needs to be armed with information with which he can effectively deal with the Cabinet departments. He needs to be armed with impartial advice, even advice of an adversary nature which will place the options for decision before the President.

What I am concerned about, you see, is whether or not the President is going to be presented with a series of options that stem from an impartial source. This is casting no reflection on any department, but every Cabinet officer gets pressures right from the bottom on up.

Concern was also expressed by other members of the Committee over whether the President and the Cabinet officers involved would have the time and energy to provide the continuity of effort required. Concern was voiced over the level of staff support which the Office of Science and Technology would be able to make available to assist the President's Council.

Based upon a review of the strengths and weaknesses of both the President's Council and an independent board of environmental advisers as proposed in S. 1075, the Committee believes that both are needed. Their functions and activities as expressed in the Executive order and in title III of S. 1075 are not in conflict. They are complementary bodies: one action-oriented and composed of those Cabinet officers chiefly concerned with environmental matters, and the other providing objective and impartial advice as well as a long-range overview and problem identification function.

SUMMARY

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelated aspects of man's dependence upon his environment. Most Americans now understand, far better than our forebears could the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has in many areas overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now costing us dearly, not merely in opportunities forgone, in impairment of health, and in discomfort and inconvenience, but also in a demand upon tax dollars upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deteriora-

tion will run. The cost of remedial action and of getting on to a sound basis for the future will never again be less than it is today.¹³

Natural beauty, increased recreational opportunity, urban esthetics and other amenities would be important byproducts of a national environmental policy. They are worthy and important public objectives in their own right. But the compelling reasons for a national policy are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life-sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaptation to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers, and in one form or another we must now pay directly the costs of maintaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of a comprehensive environmental quality program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner, we may find ourselves confronted, even in this generation, with an environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

SECTION-BY-SECTION ANALYSIS

Section 1

This section provides that this act may be cited as the National Environmental Policy Act of 1969.

Section 2

This section sets forth the purposes of the act. The purposes of the act are to declare a national environmental policy; to promote efforts to prevent environmental damage and to better the health and welfare of man; to enlarge and enrich man's understanding of the ecological systems and natural resources important to the Nation; and to establish in the Executive Office of the President a Board of Environmental Quality Advisers.

TITLE I

Section 101(a)

This section is a declaration by the Congress of a national environmental policy. The declaration is based upon a congressional recognition of mankind's dependence upon his physical and biological surroundings for material goods and cultural enrichment. It is further based upon a recognition of the increasing pressures exerted upon the environment as a result of population growth, urbanization, industrial expansion, resource exploitation, and technological development.

The continuing policy and responsibility of the Federal Government is declared to be that, consistent with other essential considerations of national policy, the activities and resources of the Federal Government shall be improved and coordinated to the end that the Nation may

¹³ For a discussion of the economic and social costs of continuing past environmental management practices see page 5, "A National Policy for the Environment," Committee Print, Senate Interior and Insular Affairs Committee, July 11, 1968.

attain certain broad national goals in the management of the environment. The broad national goals are as follows:

(1) Fulfill the responsibilities of each generation as trustee of the environment for future generations. It is recognized in this statement that each generation has a responsibility to improve, enhance, and maintain the quality of the environment to the greatest extent possible for the continued benefit of future generations.

(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings. The Federal Government, in its planning and programs, shall strive to protect and improve the quality of each citizen's surroundings both in regard to the preservation of the natural environment as well as in the planning, design, and construction of manmade structures. Each individual should be assured of safe, healthful, and productive surroundings in which to live and work and should be afforded the maximum possible opportunity to derive physical, esthetic, and cultural satisfaction from his environs.

(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences. The resources of the United States must be capable of supporting the larger populations and the increased demands upon limited resources which are inevitable in the future. To do so, it is essential that the widest and most efficient use of the environment be made to provide both the necessities and the amenities of life. In seeking intensified beneficial utilization of the earth's resources, the Federal Government must take care to avoid degradation and misuse of resources, risk to man's continued health and safety, and other undesirable and unintended consequences.

(4) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible an environment which supports diversity and variety of individual choice. The pace of urbanization coupled with population growth and man's increasing ability to work unprecedented change in the natural environment makes it clear that one essential goal in a national environmental policy is the preservation of important aspects of our national heritage. There are existing programs which are designed to achieve these goals, but many are single-purpose in nature and most are viewed as being within the province of a particular agency of Government. This subsection would make it clear that all agencies, in all of their activities, are to carry out their programs with a full appreciation of the importance of maintaining important aspects of our national heritage.

This subsection also emphasizes that an important aspect of national environmental policy is the maintenance of physical surroundings which provide present and future generations of American people with the widest possible opportunities for diversity and variety of experience and choice in cultural pursuits, in recreational endeavors, in esthetics and in living styles.

(5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities. This subsection recognizes that population increases underlie many of the resource and environmental problems which are being experienced in America. If the Nation's present high standards of living are to be made available to all of our citizens and if the general and growing desire of our people for greater participation in the

physical and material benefits, in the amenities, and in the esthetic enjoyment afforded by a quality environment are to be satisfied, the Federal Government must strive to maintain magnitude and distribution of population which will not exceed the environment's capability to provide such benefits.

(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. In recent years a great deal of the emphasis of legislative and executive action regarding environmental matters has concentrated upon the protection and improvement of quality of the Nation's renewable resources such as air and water. It is vital that these efforts be continued and intensified because they are among the most visible, pressing, and immediate concerns of environmental management.

It is also essential that means be sought and utilized to improve the effectiveness of recycling of depletable resources such as fiber, chemicals, and metallic minerals. Improved material standards of living for greater numbers of people will place increased demands upon limited raw materials. Furthermore, the disposal of wastes from the non-consumptive single use of manufactured goods is among our most critical pollution problems. Emphasis must be placed upon seeking innovative solutions through technology, management, and, if necessary, governmental regulation.

Section 101(b)

This subsection asserts congressional recognition of each person's fundamental and inalienable right to a healthful environment. It is apparent that the guarantee of the continued enjoyment of any individual right is dependent upon individual health and safety. It is further apparent that deprivation of an individual's right to a healthful environment will result in the degradation or elimination of all of his rights.

The subsection also asserts congressional recognition of each individual's responsibility to contribute to the preservation and enhancement of the environment. The enjoyment of individual rights requires respect and protection of the rights of others. The cumulative influence of each individual upon the environment is of such great significance that every effort to preserve environmental quality must depend upon the strong support and participation of the public.

Section 102

The policies and goals set forth in section 101 can be implemented if they are incorporated into the ongoing activities of the Federal Government in carrying out its other responsibilities to the public. In many areas of Federal action there is no body of experience or precedent for substantial and consistent consideration of environmental factors in decisionmaking. In some areas of Federal activity, existing legislation does not provide clear authority for the consideration of environmental factors which conflict with other objectives. X

To remedy present shortcomings in the legislative foundation of existing programs, and to establish action-forcing procedures which will help to insure that the policies enunciated in section 101 are implemented, section 102 authorizes and directs that the existing body of Federal law, regulation, and policy be interpreted and administered to the fullest extent possible in accordance with the policies set forth

in this act. It further establishes a number of operating procedures to be followed by all Federal agencies as follows:

(a) Wherever planning is done or decisions are made which may have an impact on the quality of man's environment, the responsible agency or agencies are directed to utilize to the fullest extent possible a systematic, interdisciplinary, team approach. Such planning and decisions should draw upon the broadest possible range of social and natural scientific knowledge and design arts. Many of the environmental controversies of recent years have, in large measure, been caused by the failure to consider all relevant points of view in the planning and conduct of Federal activities. Using an interdisciplinary approach that brought together the skills of the landscape architect, the engineer, the ecologist, the economist, and other relevant disciplines would result in better planning and better projects. Too often planning is the exclusive province of the engineer and cost analyst.

(b) All agencies which undertake activities relating to environmental values, particularly those values relating to amenities and aesthetic considerations, are authorized and directed to make efforts to develop methods and procedures to incorporate those values in official planning and decisionmaking. In the past, environmental factors have frequently been ignored and omitted from consideration in the early stages of planning because of the difficulty of evaluating them in comparison with economic and technical factors. As a result, unless the results of planning are radically revised at the policy level—and this often means the Congress—environmental enhancement opportunities may be forgone and unnecessary degradation incurred. A vital requisite of environmental management is the development of adequate methodology for evaluating the full environmental impacts and the full costs of Federal actions.

(c) Each agency which proposes any major actions, such as project proposals, proposals for new legislation, regulations, policy statements, or expansion or revision of ongoing programs, shall make a determination as to whether the proposal would have a significant effect upon the quality of the human environment. If the proposal is considered to have such an effect, then the recommendation or report supporting the proposal must include statements by the responsible official of certain findings as follows:

(i) A finding shall be made that the environmental impact of the proposed action has been studied and that the results of the studies have been given consideration in the decisions leading to the proposal.

(ii) Wherever adverse environmental effects are found to be involved, a finding must be made that those effects cannot be avoided by following reasonable alternatives which will achieve the intended purposes of the proposal. Furthermore, a finding must be made that the action leading to the adverse environmental effects is justified by other considerations of national policy and those other considerations must be stated in the finding.

(iii) Wherever local, short-term uses of the resources of man's environment are being proposed, a finding must be made that such uses are consistent with the maintenance and enhancement of the long-term productivity of the environment.

(iv) Wherever proposals involve significant commitments of resources and those commitments are irreversible and irretrievable under conditions of known technology and reasonable economics, a finding must be made that such commitments are warranted.

(d) Wherever agencies of the Federal Government recommend courses of action which are known to involve unresolved conflicts over competing and incompatible uses of land, water, or air resources, it shall be the agency's responsibility to study, develop, and describe appropriate alternatives to the recommended course of action. The agency shall develop information and provide descriptions of the alternatives in adequate detail for subsequent reviewers and decision-makers, both within the executive branch and in the Congress, to consider the alternatives along with the principal recommendation.

(e) In recognition of the fact that environmental problems are not confined by political boundaries, all agencies of the Federal Government which have international responsibilities are authorized and directed to lend support to appropriate international efforts to anticipate and prevent a decline in the quality of the worldwide environment.

(f) All agencies of the Federal Government are directed to review their existing statutory authority, administrative regulations, policies, and procedures. The agencies are to propose to the President and to the Congress new executive or legislative authority which they find to be necessary to make their authority consistent with the provisions and purposes of this act.

The committee expects that each agency will diligently pursue this review and that appropriate legislative recommendations will be prepared for presentation to the Congress within 1 year's time. The committee recognizes, however, that there is a wide difference in the complexity of legislation dealing with the activities of the various executive agencies and that a specific deadline might prove unreasonably burdensome on some agencies.

Section 103

This section provides that the policies and goals set forth in this act are supplementary to the existing mandates and authorizations of Federal agencies. They are not considered to repeal the existing authorizations. Where conflicts occur, they will be resolved under the procedure prescribed in section 102(f).

TITLE II

Section 201

This section provides authorization for the Federal agencies to include, as a part of their existing programs and their ongoing activities, certain environmental management functions which will be necessary to support the policies established by this act. No specific authorization of appropriations is provided for these activities. The committee believes that the agencies can perform the functions authorized as a part of the general administration and operation of their existing programs. To the extent that agencies are pursuing activities with environmental management implications, the costs of the functions authorized in this section are appropriate costs of their work. The functions authorized for each Federal agency are as follows:

(a) To conduct investigations and research relating to ecological systems and environmental quality. It is intended that such activities will be undertaken by each agency when its activities would have an adverse impact on an ecological system or on the quality of the environment.

(b) To collect and document information relating to changes or trends in environmental conditions including ecological systems. It is intended that each agency perform this function in its area of expertise and operation.

(c) To evaluate and publish environmental and ecological data which it has collected.

(d) To make available advice and information at its disposal relating to environmental management.

(e) To utilize ecological information in the planning and development of resource-oriented projects. Each agency which studies, proposes, constructs, or operates projects having resource management implications is authorized and directed to consider the effects upon ecological systems to be a part of the analyses governing its actions and to study such effects as a part of its data collection.

(f) To conduct ecological research and studies within the Federal lands under its jurisdiction.

(g) To assist to the fullest extent possible the Board of Environmental Quality Advisers established by this act and any environmental council or committee established by the President.

Section 202(a)

This section authorizes the President to designate an agency or agencies to carry out the following functions regarding environmental management:

(1) Administer a program of grants, contracts and cooperative agreements, training and research to further the programs of ecological study authorized by title II and to accept and utilize donations for this purpose.

(2) Develop and maintain an inventory of Federal projects and programs, existing and contemplated, which have made or will make significant modifications in the environment.

(3) Establish an information collection and retrieval system for ecological research materials.

(4) Assist and advise State and local governments and private enterprise in developing policies and procedures to enhance the quality of the environment.

Section 202(b)

Appropriations in the amounts of \$500,000 annually for fiscal years 1971 and 1972 and \$1 million annually for 1973 and each fiscal year thereafter are authorized for the purposes of this section. The funds appropriated would be allotted to the designated agencies as the President recommends.

Section 203

This section establishes in the Office of Science and Technology an additional Deputy Director to be compensated at the rate provided for level IV of the executive schedule pay rates.

The Office of Science and Technology (OST) was established by Reorganization Plan No. 2 of 1962 to provide a permanent staff in

the Executive Office of the President to advise and assist the President on matters pertaining to or affected by science and technology. It is also directed to take on such other assignments as the President may request. The Director of OST, appointed by the President with the advice and consent of the Senate, also serves as the science adviser to the President.

Since it was provided statutory authority in 1962, the OST has broadened the range and scope of its activities extending beyond the province of research or policy for science and technology to the interrelations of science to broad national policies and programs. In this sense, the OST is concerned with assuring the most effective and beneficial use of technology in our society.

Thus, the OST deals with broad problems facing the country in health, education, the urban environment, energy policy and environmental quality.

The President's recent Executive order establishing an Environmental Quality Council directed the OST to provide the staff support and assistance to the work of the Council. The President's science adviser was named Executive Secretary of the Council.

In view of the importance of environmental management problems and the important role which the President's Council will have in resolving interagency conflict concerning environmental issues, and in coordinating the ongoing environmental programs of the Federal Government, a significant increase is expected in the already demanding work load of the OST.

The committee feels that the addition of a second Deputy Director as recommended by the Bureau of the Budget in its July 7, 1969 letter to the chairman, will be of great value in strengthening OST's capacity to contribute to effective environmental management.

TITLE III

Section 301(a)

This subsection creates in the Executive Office of the President a Board of Environmental Quality Advisers. The Board is to be composed of three members appointed by the President with the advice and consent of the Senate and who shall serve at the President's pleasure.

It is intended that the members of the Board shall be persons of broad experience and training with the competence and judgment to analyze and interpret trends and developing problems in the quality of the Nation's environment. The committee does not view the Board's functions as a purely scientific pursuit, but rather as one which rests upon scientific, economic, social, esthetic, and cultural considerations. The members of the Board, therefore, should not necessarily be selected for depth of training or expertise in any specific discipline, but rather for their ability to grasp broad national issues, to render public service in the national interest, and to appreciate the significance of choosing among present alternatives in shaping the country's future environment.

The President shall designate one member of the Board as Chairman and one as Vice Chairman.

Section 301(b)

This subsection provides that the members of the Board shall serve full time. The compensation for the Chairman of the Board is set at

level II of the Executive Schedule pay rates and at level IV for the other two members. These provisions parallel the compensation provisions established by law for the Chairman and the members of the Council of Economic Advisers.

Section 302(a)

The primary function of the Board shall be to carry on continuing studies and analyses related to the status of the environment. The Board will seek to establish or cause to be established within the operating agencies of the Federal Government an effective system for monitoring environmental indicators, collecting data, and analyzing trends. It will further seek to relate trends in environmental conditions to short- and long-term national goals and aspirations.

In carrying out this function, the Board is required to perform a number of specified duties.

First, the Board is required to report at least once each year to the President on the state and condition of the environment. This report should represent the Board's considered and impartial judgement. The Board's report would be useful to the President in the preparation of the annual environmental quality report which the President is required to transmit to the Congress by section 303.

Second, the Board would provide advice, assistance, and staff support to the President in the formulation of national policies designed to foster and promote the improvement of the quality of the environment. The President is, of course, free to utilize the services of the Board in any manner in which he desires. The committee hopes, however, that the President would rely on the Board's impartial and objective advice in the formulation of national environmental policies.

Third, the Board is authorized to obtain information from all existing sources concerning the quality of the environment. The committee intends and fully expects that all Federal agencies will cooperate and provide any assistance and information necessary to enable the Board to fulfill its duties and responsibilities under this act. The Board is also directed to make information concerning the quality of the environment available to the American people. It is the committee's strong view that there needs to be some one place in Government to which the public and the news media may turn for authoritative and objective information on particular environmental problems. A current example of the need relates to the controversy over the impact of certain chemicals, pesticides, and insecticides. Many news reports and the opinions of many competent scientists indicate that some present practices in the use and application of these substances pose grave health dangers. The extent of the danger, however, is often minimized and, in some cases, even denied by the responsible Government agencies. The Board could provide a useful and needed public function by reviewing all of the facts and furnishing competent judgment and advice on problems of this nature.

Section 302(b)

This subsection provides that the Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment. Based upon its review, the Board shall make recommendations to the President.

The committee does not view this direction to the Board as implying a project-by-project review and commentary on Federal pro-

grams. Rather, it is intended that the Board will periodically examine the general direction and impact of Federal programs in relation to environmental trends and problems and recommend general changes in direction or supplementation of such programs when they appear to be appropriate.

It is not the committee's intent that the Board be involved in the day-to-day decisionmaking processes of the Federal Government or that it be involved in the resolution of particular conflicts between agencies and departments. These functions can best be performed by the Bureau of the Budget, the President's interagency Cabinet-level Council on the Environment or by the President himself. The committee does, however, strongly feel that the President needs impartial and objective staff support which can provide him with unbiased information and an accurate overview of the Nation's environmental trends and problems and how these trends and problems affect the future material and social well-being of the American people.

The Board's recommendations to the President are for his use alone, and his actions on their recommendations will depend on the confidence he places in the judgment of the persons he nominates to membership on the Board. Used properly, the Board's review and appraisal of Federal activities which affect the quality of the environment can add a new dimension and provide the President with a new insight into the long-range needs and priorities of the country. At the present time, the executive agencies' view of National needs, goals, and priorities in the field of environmental management appears to have been so thoroughly subjugated to budgetary and fiscal considerations that the nature of the fundamental values at stake has been obscured. It is the committee's view that the values which are at stake in the environmental management decisions which lie ahead need to be brought to the fore and made the subject of official decision at the highest levels of Government.

Section 302(c)

This subsection states that the Board will assist the President in the preparation of the annual environmental quality report required by section 303. The committee assumes that the Board would have the primary responsibility for the preparation of the President's annual report. It could, in large measure, be based upon the Board's report to the President required by section 302(a)(1).

Section 302(d)

This section provides that both the Board of Environmental Quality Advisers and the Office of Science and Technology shall carry out their duties under the provisions of this act at the direction of the President. This provision was not a part of S. 1075 as introduced, but was added as a committee amendment to make it clear that the duties and functions assigned to the Board and the Office of Science and Technology are to be carried out at the direction of the President as is true with regard to the other offices and bodies in the Executive office of the President. This provision will avoid any problems of duplication, coordination, and overlap which otherwise might subsequently arise between the activities of the Board and those of other offices or agencies.

The committee feels that this provision will enlarge the President's flexibility in organizing his staff and will enhance the overall policy-making capacity of the Executive office.

Section 303

This section provides that the President shall transmit to the Congress an annual environmental quality report. The first such report shall be transmitted on or before June 30, 1970. Subsequent reports shall be transmitted on or before June 30 in succeeding years.

The report is to include, but not be limited to, a current evaluation of the status and condition of the major environmental classes of the Nation. To the greatest extent possible, this information should be based upon measurements of environmental indicators relating quality and supply of land, water, air, and depletable resources to other factors such as environmental health, population distribution, and demands upon the environment for amenities such as outdoor recreation and wilderness. Significant current and developing environmental problems should be highlighted. Current and foreseeable environmental trends and evaluations of the effects of those trends upon the Nation's future social, economic, physical, and other requirements should be discussed.

It is the committee's strong view that the President's annual report should provide a considered statement of national environmental objectives, trends and problems. The report should provide the best judgment of the best people available on the Nation's environmental problems and the progress being made toward providing a quality environment for all Americans.

The report should summarize and bring together the major conclusions of the technical reports of other Federal agencies concerned with environmental management. Too often, these reports go unread and unevaluated. A succinct, readable summary and evaluation would be of great assistance to the Congress and the President.

It is anticipated that the annual report and the recommendations made by the President would be the vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress. It would also appear to be desirable to hear the views of the Board of Environmental Quality Advisers at an annual session similar to that now conducted by the Joint Economic Committee with the Council of Economic Advisers.

Section 304

This section provides that the Board may employ a professional and support staff and may acquire the services of experts and consultants. The committee intends that the Board should have available a professional staff comparable in size and qualifications to the staff which currently services the Council of Economic Advisers. The staff members, like the members of the Board, should represent many disciplines and professions. They should be broad-gaged people who are capable of furnishing the Board with a balanced and knowledgeable overview of the state of the Nation's environment.

Section 305

This section authorizes appropriations in the amount of \$1 million annually to cover the salaries and operating expenses of the Board.

The committee chose the \$1 million ceiling because it is comparable to the appropriations which have been required over the past several years for the Council of Economic Advisers.

COMMITTEE RECOMMENDATIONS

The Interior and Insular Affairs Committee after long and careful consideration, unanimously recommends that S. 1075, as amended, be enacted.

EXECUTIVE COMMUNICATIONS

On July 7, the Interior Committee received communications from the Bureau of the Budget on the amended version of S. 1075 which was unanimously reported out of committee on June 18. The full text of this communication, together with a marked-up copy of S. 1075 which includes the Bureau's suggested amendments, is set forth in full below.

Additional communications from the Bureau of the Budget dated June 14, 1969 as well as the Office of Science and Technology dated May 29, 1969 are also set forth in full. These communications were received subsequent to the inclusion of a national environmental policy statement in S. 1075, following the April 16 hearing on this measure.

Further communications from the Bureau of the Budget, the National Science Foundation, and the Departments of Interior, Agriculture, State, and Health, Education, and Welfare, on S. 1075, prior to amendment, are also set forth in full.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., July 7, 1969.

HON. HENRY M. JACKSON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR JACKSON: We have reviewed carefully the provisions of your bill, S. 1075, which are designed to strengthen Federal capabilities to respond to problems of environmental quality.

The President certainly shares the concern of the Congress and the public as to the need for improved environmental management. The President's serious concern over the problems of environmental quality is reflected in his establishment by Executive Order 11472 of the Environmental Quality Council and the Citizens' Advisory Committee on Environmental Quality. He has assigned to the Office of Science and Technology the responsibility for providing advice, assistance, and staff support to the President and the Environmental Quality Council. He has further directed that the Office of Science and Technology be strengthened to provide the diverse professional capabilities needed for objective assessments of a wide range of environmental quality problems. This staff capability in the Executive Office of the President is to provide for assessing environmental problems, analyzing long term trends in the environment, evaluating the adequacy of Federal programs, and assuring that environmental considerations are adequately taken into account in proposed Federal programs and actions.

Establishment of the Environmental Quality Council, chaired by the President, assures the highest possible level of attention of departments and agencies to problems of the environment and provides the framework within which to improve coordination among agencies in their environmental programs.

Establishment of the Citizens' Advisory Committee provides a clear channel for getting independent information and advice from the non-Government community and for relationships with the many voluntary organizations that have an interest and stake in the improved management of the environment. In addition, the assignment of responsibility to the Office of Science and Technology provides a ready access through the President's Science Advisory Committee to many experts in a variety of fields in the universities, industry, and other sectors who can assist in addressing environmental problems.

S. 1075 as amended would establish a national environmental policy, authorize studies and research related to environmental quality, require an annual report from the President, and establish a Board of Environmental Quality Advisers in the Executive Office of the President. With respect to the policy statement, Mr. Hughes' June 13, 1969, letter noted that there is already a large body of policy with respect to the environment, that a comprehensive statutory statement of policy in this area could be helpful to the President and the Environmental Quality Council, and that the Council will take up the question of a national policy at one of its earliest meetings. The proposed statement in title II of general functions that operating agencies are authorized to carry out with respect to the environment appears to be a useful reaffirmation of authorizations in this important area. An annual report on the environment, along the lines provided for in title III, would appear to be a useful periodic assessment of important problems which could be made available to the Congress and the public. We believe a number of changes should be made in titles I and II. The attachment reflects the changes that appear to be essential if legislation along the lines of S. 1075 is to be enacted at this time.

With respect to title III we believe that establishment of the proposed Board of Environmental Quality Advisers would be undesirable. Such action would further complicate the organization and functioning of the Executive Office of the President. Furthermore, the establishment in the Federal Government of an additional body to deal with overall environmental problems would diffuse responsibility rather than provide the sharp focus now required and now provided for in the President's actions. These actions represent the President's best judgment as to the mechanisms that are required at this point in time for addressing environmental problems. It is recognized that additional changes may be required after there has been experience with the newly established mechanisms.

If the Congress wishes to legislate in support of these actions we would have no objection to providing a statutory basis for assignment of appropriate responsibilities to the Office of Science and Technology. This action could be accompanied by provision of an additional position of a presidentially appointed Deputy Director in OST who could devote full time to environmental quality problems if the committee deemed it useful. These steps would make very clear congressional support for the President's action while, at the same time, avoiding the undesirable consequences of establishing a new organization.

It should be emphasized that the arrangements established by the President are designed to preserve the flexibility in the organization and staffing of the Executive Office that is necessary if the President is to have an opportunity to use the resources available to him for effective action. As you are well aware, this basic principle with respect to organization of the Executive Office has been endorsed by knowledgeable and thoughtful persons in the Congress and elsewhere.

The attached copy of S. 1075 has been marked up to reflect the essential changes discussed above. If the bill were modified in this way, we believe it could provide useful assistance for the President.

Sincerely,

ROBERT P. MAYO, *Director.*

Enclosure.

[Bureau of the Budget suggested additions are printed in italic; deletions in brackets]

A BILL To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SEC. 1. That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisers.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances on our physical and biological surroundings, and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations, and public laws of the United States *to the fullest extent possible*, be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal Government—

(a) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(b) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(c) include in every recommendation or report on proposals for legislation **[or]** and other **[significant]** *major* Federal actions *significantly* affecting the quality of the human environment, a finding by the responsible official that—

(i) the environmental impact of the proposed action has been studied and considered;

(ii) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by other stated considerations of national policy;

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and that

(iv) any irreversible and irretrievable commitments of resources are warranted.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water, or air;

(e) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initia-

tives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

(f) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress [within one year after the date of enactment] such measures as may be necessary to make their authority consistent with this Act.

SEC. 103. The policies and goals set forth in this Act are supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

TITLE II

SEC. 201. To carry out the purposes of this Act, all agencies of the Federal Government in conjunction with their existing programs and authorities, are hereby authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(d) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(e) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(f) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Federal agencies; and

(g) to assist [the Board of Environmental Quality Advisers established under title III of this Act and] any council or committee established by the President to deal with environmental problems.

SEC. 202. In carrying out the provisions of this title, the [Secretaries of Interior and Agriculture are empowered to] *President is authorized to designate an agency or agencies to—*

(a) make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act.

[(b) There are hereby authorized to be appropriated \$500,000 annually for fiscal years 1971 and 1972, and \$1,000,000 for each fiscal year thereafter.

[SEC. 203. The Director of the Office of Science and Technology (hereinafter referred to as the "Director") in order to carry out the purposes of this title, is authorized and directed—

[(a) to review, appraise, and coordinate the investigations, studies, surveys, and research relating to ecological systems and environmental quality carried on by agencies of the Federal Government;]

(b) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(c) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; and

(d) to assist and advise State and local government, and private enterprise in bringing their activities into conformity with the purposes of this Act and other Acts designed to enhance the quality of the environment.

[SEC. 204. The Director shall consult with and provide technical assistance to other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement by the Director.]

SEC. 203. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.

[TITLE III

[SEC. 301. There is created in the Executive Office of the President a Board of Environmental Quality Advisers (hereinafter referred to as the "Board"). The Board shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Board from such members.

[SEC. 302. (a) The primary function of the Board shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Board shall—

[(1) report at least once each year to the President on the state and condition of the environment;

[(2) provide advice, assistance, and staff support to the President on the formulation of national policies to foster and promote the improvement of environmental quality;

[(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

【(b) The Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment and make recommendations thereon to the President.

【(c) It shall be the duty and function of the Board to assist and advise the President in the preparation of the annual environmental quality report required under section 303.

【SEC. 303. The President shall transmit to the Congress, beginning June 30, 1970, an annual environmental quality report which shall set forth: (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

【SEC. 304. The Board may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Board may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

【SEC. 305. There are hereby authorized to be appropriated \$1,000,000 annually to carry out the purposes of this title.

【Amend the title so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."】

TITLE III

STRENGTHENING THE OFFICE OF SCIENCE AND TECHNOLOGY

SEC. 301. *The Director of the Office of Science and Technology (hereinafter referred to as the "Director"), in order to carry out the purposes of this Act, is authorized and directed to advise and assist the President—*

(a) *in the formulation of national policies to foster and promote the improvement of environmental quality;*

(b) *in the review, appraisal, and coordination of investigations, studies, surveys, and research relating to ecological systems and environmental quality carried on by agencies of the Federal Government;*

(c) *in the review and appraisal of Federal programs, projects, activities, and policies which affect the quality of the environment;*

(d) *in the study and analysis of environmental trends, and the factors that effect those trends, in relation to conservation, social, economic, and health goals of the Nation;*

(e) *in the preparation of the annual environmental quality report required under section 401.*

SEC. 302. *The Director shall consult with other Federal agencies, and he is authorized to obtain from such departments and agencies such information, data, reports, advice, and assistance as he deems necessary or appropriate and which can reasonably be furnished by such departments and agencies in carrying out the purposes of this Act. Any Federal agency furnishing advice or assistance hereunder may expend its own funds for such purposes, with or without reimbursement.*

SEC. 303. *There is hereby established in the Office of Science and Technology an additional office with the title "Deputy Director of the Office of Science and Technology." That Deputy Director shall be appointed by the President by and with the advice and consent of the Senate, shall, perform such duties as the Director of the Office of Science and Technology shall from time to time direct, and shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).*

SEC. 304. *There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this title.*

TITLE IV

ANNUAL REPORT

SEC. 401. *The President shall transmit to the Congress, beginning June 30, 1970, an annual environmental quality report which shall include: (a) the status and condition of the natural and manmade environment; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.*

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF SCIENCE AND TECHNOLOGY,
Washington, D.C., May 29, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR SENATOR JACKSON: This responds to your request for my views on an explicitly stated national policy on the environment. As I stated at your April 16, 1969, hearing, I do believe such a policy statement would be useful.

I compliment you and your committee on your deep interest and initiative in undertaking to provide a viable national policy on the environment. I am mindful that there is already a large body of policy dealing with the environment, not only in acts of the Congress, but also in administrative guides, and regulations within the executive branch. This policy, though it does not exist in any one place, is nonetheless real. Nevertheless, it is not cohesive.

As I understand it, your proposed bill codifies and consolidates these separate policy statements. This would be a most useful and significant step. Even more importantly, the policy statement would be a tangible means through which the Congress can give form to its deep interest in the subject and thus lend support to the work of the Presidential Council.

It was a pleasure to appear before your committee last month, and I look forward to continued cooperation with you in a coordinated effort with other Members of Congress in providing the most effective means to improve our environment.

Sincerely yours,

LEE A. DUBRIDGE, *Director.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., June 14, 1969.

HON. HENRY M. JACKSON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR JACKSON: This is in response to a recent informal request from a member of your staff for the views of the Bureau of the Budget concerning the amendment you offered on May 29, 1969, to your bill S. 1075, to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

Your proposed amendment would set out a comprehensive statement of national policy on the environment. We join in supporting the general objectives of this proposed policy which are in accord with the aims expressed by the President in creating the new Environmental Quality Council.

As noted in Dr. DuBridge's letter to you of May 29, 1969, there is already a large body of statutory and administrative policy aimed at protecting our environment. However, Dr. DuBridge's letter went on to state, and we agree, that a comprehensive statutory statement of national policy on the environment would be useful and significant and support the work of the President's Council.

As a statement of guiding principles, a comprehensive national policy on the environment will, of course, be of basic concern to the Council. In this connection, for example, Executive Order No. 11472 establishing the Council states that one of its major functions will be to recommend measures to insure that Federal policies and programs, including those for development and conservation of natural resources, take adequate account of environmental effects.

I have been assured by Dr. DuBridge, who as you know, is Executive Secretary of the Council, that the Council will take up the whole question of a national policy for the environment at one of its earliest meetings. I am sure your policy statement will be a major basis for this consideration.

I would like to take this opportunity to express our appreciation for the efforts which you and your committee have made toward the goal of environmental protection that is of such deep concern to this administration as well.

Sincerely,

PHILLIP S. HUGHES,
Deputy Director.

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs, U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: Your committee has requested this Department's report on two similar bills, S. 1075 and S. 1752.

While we favor the objectives of these bills, we do not recommend their favorable consideration in view of President Nixon's announced intention to establish an interdepartmental Environmental Quality Council.

Both bills would establish in the Office of the President an environmental council composed of members appointed by the President with the advice and consent of the Senate to advise the President on environmental problems. In addition, both bills would authorize the Secretary of the Interior to undertake two major groups of programs relating to the environment.

First, Interior would prepare surveys and document and define changes in the natural environment and receive and maintain data on ecological research. These are enormous tasks requiring much time and money. While effort in this direction is needed, a much clearer description of objectives should be developed before we attempt to legislate a program in this area.

Second, under the bills, Interior would encourage public and private agencies to utilize the ecological data which it develops. Public works projects which affect the environment are carried out by many agencies. Yet the bills are not specific on how Interior would comment on those projects. If Interior must depend on other agencies coming to it, it is doubtful that many will. If Interior should volunteer its comments, it may well be viewed as an interloper by other agencies and by those who benefit from the projects. If the agencies were required to come to Interior, present administrative procedures would need to be changed.

The Department of the Interior has a central concern for environmental quality and would not oppose the placing of many functions relative to the environment in the Department if the mission and mechanism for carrying out those functions were clearly defined. However, this Department does not have the sole responsibility for environmental matters. Other Federal agencies are concerned with air, farmland, forests, and other matters affecting the environment. The bills do not recognize these complex jurisdictional relationships, but rather tend to duplicate functions now carried out by these agencies.

In summary, we believe that the President's Council which is now contemplated is an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, we are confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

RUSSELL E. TRAIN,
Under Secretary of the Interior.

DEPARTMENT OF AGRICULTURE,
Washington, D.C., April 15, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate.

DEAR MR. CHAIRMAN: This is in response to your request for a report on S. 1075, a bill to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

Title I of the bill would authorize the Secretary of the Interior (1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) to document and define changes in the natural environment, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and their underlying causes; (3) to develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment; (4) to establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; (5) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals; (6) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring and maintaining, and enhancing the quality of the environment; (7) to initiate and utilize ecological information in the planning and development of resource oriented projects; (8) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment; (9) to conduct research and studies within natural areas under Federal ownership which are under his jurisdiction and under the jurisdiction of other Federal agencies; and (10) to assist the Council on Environmental Quality.

In addition, the Secretary of the Interior would be required to consult with and provide technical assistance to Federal agencies and would be authorized to obtain from them whatever information, data, reports, advice, and assistance are needed and could reasonably be furnished in carrying out the purposes of the bill. Any Federal agency furnishing advice or assistance would be authorized to expend its own funds for such purposes, with or without reimbursement. The Secretary would be authorized (1) to make grants to and to enter into contracts or cooperative agreements with public or private agencies or organizations or individuals, (2) to accept and use donations of funds, property, personal services or facilities, and (3) to participate in environmental research in surrounding oceans and in other countries if he determines that such activities would contribute to the objectives and purposes of the bill.

The bill specifically states that it is not intended to give or to be construed as giving the Secretary of the Interior any authority over

any authorized program of another department or agency and that it would not repeal, modify, restrict, or amend existing authorities or responsibilities of any department or agency with respect to the natural environment. The Secretary would be required to consult with the heads of departments and agencies to identify and eliminate duplication of effort.

Title II of S. 1075 would create in the Executive Office of the President a three member Council on Environmental Quality, appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate, with the Chairman and Vice Chairman designated by the President. Each member would be professionally qualified to analyze and interpret environmental trends of all kinds and be conscious of and responsive to specific, economic, social, esthetic, and cultural needs and interests of the Nation.

The Council would study and analyze environmental trends and factors that affect the trends, relating each area of study and analysis to the conservation, social, economic, and health goals of the Nation. It would (1) report annually to the President on the state and conditions of the environment, (2) provide advice and assistance to the President on national policies needed to foster and promote improvement of environmental quality, and (3) obtain information concerning the quality of the environment and make it available to the public.

The Council would periodically review and appraise new and existing programs and activities of Federal agencies and make recommendations thereon to the President.

The Council, and the Secretary of the Interior, would assist and advise the President in the preparation of an annual environmental quality report.

Beginning June 30, 1970, the President would transmit annually to the Congress an environmental quality report which would set forth (1) the status and conditions of the major natural, manmade, or altered environmental classes of the Nation; and (2) the current and foreseeable trends in quality, management, and utilization of such environments, and the effects of those trends on the social, economic, and other requirements of the Nation.

This Department agrees that there is a need for further and continuing research into the natural environmental systems of the United States. It has many programs in research on soil and water conservation and forestry that deal with the problems discussed in the bill. The research program of the Forest Service presently includes studies of the natural environmental factors affecting most of our renewable natural resources, including forests, forested and related rangelands, wildlife habitat, recreation, and water conservation and watershed management. Such research embraces all aspects of the ecology of most of the organisms that make up or affect the whole or any part of these resources. Study of related sociologic and economic factors are also a part of this research. The research activities of the Agricultural Research Service also involve ecology of our national environmental systems. The Soil Conservation Service has the national leadership of the National Cooperative Soil Survey which is actively engaged in classifying and mapping the soils of the United States. The soil survey reports include interpretations of the basic soils information for all suitable uses of the land including natural vegetation and wildlife.

Any broader ecological studies would of necessity overlap or duplicate this effort.

The research organization and programs of this Department extend to both public (Federal, State, and local) and private lands. We cooperate actively with other public and private research organizations, including schools and universities. The results of our research program, and the benefits therefrom, are disseminated or available to and used by both public and private landowners in the management of their natural resources. Research of natural environmental systems which S. 1075 would authorize does not lend itself to area limitations such as national forests, national parks, or other political or administrative jurisdictions.

A number of Federal agencies, in addition to this Department as well as the Department of the Interior, have ongoing investigations, studies, surveys, and research in this general field. We believe that the Committee on Environmental Quality that was established by the Office of Science and Technology is usefully serving as a body to coordinate planning and activities in this field. This interagency group is giving certain technical coordination to the Federal programs in this area of concern.

Section 101(c) of the bill would authorize the Secretary of the Interior to develop and maintain an inventory of both public and private projects which may make significant modification in the natural environment.

Many agencies maintain inventory records of that kind of projects. S. 1075 would require the establishment of an extensive new records and reporting system covering numerous public and private activities, large and small, and would require a large organization to assemble, analyze, clarify, and record the inventory information. Furthermore, so many known and unknown activities or related factors make, or may make, significant modifications in natural environment systems that definitions and criteria for inventory subjects would be a task of major proportions in itself.

We recommend against enactment of title I. As pointed out above, not only this Department, but also a number of other Federal agencies, are engaging in a variety of research, study, and investigatory activities related to ecological systems and environment, and compile and maintain inventories of projects and activities. The broad scope of authorities in title I would substantially overlap and duplicate those efforts. We believe that prior to the enactment of new authorities, a careful and comprehensive review of present activities, priorities, and capabilities of the agencies concerned is needed.

We support the objectives of title II of S. 1075 concerning a Council on Environmental Quality. The environment in which we live affects, for better or worse, our health, our outlook and attitudes, our opportunities for a satisfactory life, and even our prospects for continued existence. There is constant interplay of resource use and exploitation, manufacturing processes, and air, water, and soil pollution, with efforts to maintain continuing production, a healthy environment, and attractive surroundings. Many of these factors are effected, favorably or adversely, by Federal, State, and local programs and activities and by the everyday activities of agriculture, industry, and people. We believe that our complex and highly technical society could well benefit from a continuing, detached, broad perspective,

constructive, and understanding appraisal of factors that affect our environment.

However, we do not recommend enactment of the provisions of title II. There is now under consideration establishment of an environmental quality council within the Executive Office of the President. Such a council, we believe, would be able to assist and advise the President on national policies in the field of environmental policy and conduct an assessment of current activities in this area.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., April 17, 1969.

HON. HENRY A. JACKSON,
*Chairman, Senate Committee on Interior and Insular Affairs,
New Senate Office Building, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Bureau of the Budget on S. 237, S. 1075, and S. 1752. These bills have a basic objective in common: to enhance the Government's capability of dealing with the critical problems of the quality of our environment. Also common to them is the creation of a council in the Executive Office of the President to assist and advise the President on national policies to improve environmental quality.

We concur fully in the basic objective of the bills. The quality of man's environment is being increasingly affected by man's own works, and additional efforts are required to assess the nature of the hazards and the means for their avoidance or amelioration.

The President recently reemphasized his concern on this matter and indicated that actions are underway to assure continuing attention by his administration to environmental factors in the planning and carrying out of Federal programs. A variety of organizational arrangements for accomplishing this objective are now under consideration in the agencies and by the President.

One of the major difficulties in dealing with this area is the broad, almost all encompassing nature of the term "environment." Programs of a number of Federal agencies have as a principal concern the protection or enhancement of aspects of the environment. Other programs affect the environment in various ways. Consequently, organizational arrangements alone will not suffice. It also is necessary to integrate specific environmental considerations into the decisionmaking processes of many agencies to make real progress. As Interior noted in its report to your committee on S. 1075 and S. 1752, a complex set of jurisdictional relationships needs to be evaluated before proposing any new responsibilities or new organization.

As we indicated, improved organizational arrangements for better coordination of policy and program concerns in the field of environmental quality are under active review within the executive branch.

In present circumstances, we believe that such arrangement, particularly those in the Executive Office of the President designed to provide better policy advice and staff assistance to the President, should be undertaken by executive action rather than by legislation in order to assure flexibility necessary in exploratory or pilot efforts and in meeting changing needs.

Accordingly, we do not recommend favorable action at this time on the subject bills.

Sincerely,

WILFRED H. ROMMEL,
Assistant Director for Legislative Reference.

NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., April 22, 1969.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: On March 28 you invited me to testify at hearings to be held on April 15 and 16 on the bill S. 1075, "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality," Subsequently, in discussions with your staff, we have learned that pressures of time available for discussing the bill make it preferable for me to submit a letter for the record.

The National Science Foundation supports the objectives of the bill. The interests of the Foundation in environmental problems have been growing for many years, and we have become a major source of Federal support for academic research in the sciences of the environment. The Foundation's mission does not entail responsibility for action programs designed to ameliorate social problems, to improve health, to abate pollution, or to modify the environment. Instead, the Foundation's mission is to aid in improving the store of scientific knowledge on which future action can be based. Thus, Foundation programs, while not specifically problem or solution oriented, are of great importance in maintaining and improving the Nation's ability to understand and cope with the problems relating to the human environment.

In direct support of research on one or another aspect of the environment such as atmospheric sciences, oceanography, environmental biology, earth sciences, etc., the Foundation obligated \$77,807,000 in fiscal year 1968. It is estimated that the corresponding total for fiscal year 1969 will be approximately \$72,730,000. (The slight decrease is a result of a reduction in our total appropriation and does not represent the assignment of lower priority to these science areas.) This amounts to approximately one-third of the Foundation's support of scientific research. More directly, the Foundation has established an ecosystem analysis program within its Division of Biological and Medical Sciences. For the immediate future this program will have as its major responsibility the administration of Foundation support of the major ecological systems studies being conducted as a part of the International Biological Program (IBP).

In addition to the support of scientific research related to the environment, another contribution of the Foundation is the training and education of young people in all of the basic science areas; including development of improved curricula, the training of teachers, and the administration of direct assistance to high ability students. Other Foundation programs with a direct bearing on U.S. long-range ability in environmental science and technology include science information activities, the application of computer techniques and technology to research and education, international cooperative scientific activities and science policy studies.

The foregoing paragraphs summarize the National Science Foundation's contributions to scientific understanding of our environment. They serve as a prelude to my specific comments on the proposed bill, S. 1075, in order to demonstrate the Foundation's long-standing support of the environmental sciences and our consequent keen interest in the development of related programs. Title I proposes "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources and environmental quality." The list of activities in section 101, paragraphs (a) through (j) would cover a broad range of ecological research and related activities to which more attention should be directed. We do not perceive any necessary conflict between the work that would be performed under these several authorities listed and research and training currently planned and in progress under support of the National Science Foundation, even though the objectives coincide to some degree with existing programs of the Foundation. However, ecological research, studies and training are performed by a number of other agencies and any new authority would necessitate a careful review of these activities.

Title II of the proposed S. 1075 would create in the Executive Office of the President a Council on Environmental Quality. As you are no doubt aware, the President has recently established a Council for Urban Affairs and has signified his intention to create a Cabinet level Council on the Quality of the Environment. I understand that Dr. DuBridge has discussed this feature of the bill with you and I would like to defer to him for comment on the proposed Council. However, as indicated above, I do believe that environmental problems are of such great importance that adequate provision should be made to provide all levels of government with the best scientific and technological base from which to make the difficult decisions regarding the best use of our environment.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the standpoint of the administration's program.

Sincerely yours,

LELAND J. HAWORTH, *Director*.

DEPARTMENT OF STATE,
Washington, D.C., April 21, 1969.

HON. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I refer to your letter of March 12, receipt of which was acknowledged on March 18, in which you requested a report on S. 1075, a bill to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

It is noted that the bill proposes to provide for a comprehensive and continuing program of study, review, and research for the purpose, among other things, of promoting and fostering means and measures which will prevent or effectively reduce any adverse effects on the quality of the environment in the management and development of the Nation's natural resources.

The Department of State appreciates the purpose of the bill. However, our response here is directed only to the question of environmental quality as it affects this Department. We are not commenting on the manner in which a Council on Environmental Quality might be established and are not commenting on specific allocations of responsibility to the Secretary of the Interior.

The Department wishes to call attention to the fact, moreover, that the objective of the bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers. Nature, technological interference, the demands of a population steadily growing in number and opulence, and sheer neglect, produce pollutants which transcend national boundaries. Pollution may be national in origin; its effects and control are international.

Growing recognition of the interrelatedness of the world's ecosystems, on the one side, and of the common danger of pollution to human life, health, and welfare, on the other, have prompted governments everywhere to take official cognizance, and where possible, countermeasures. There is legitimate fear that these problems are increasing in virulence and in their rate of incidence. There is growing awareness that many of them are shared by a number of nations, either because the same problems coexist in different countries or because they are the result of mutual pollution. As a result governments have begun to seek remedy through joint counteraction by using either bilateral or multilateral channels.

International agencies, both intergovernmental and nongovernmental, including the United Nations, ILO, FAO, WHO, WMO, UNESCO, ECE, IAEA, OECD, et al., have for some time been engaged in various programs dealing with specific problems of the environment, for example, air pollution, water pollution, solid waste disposal, and so forth. A report of activities of the U.N. organization is attached. Until recently, however, none of these organizations have attacked the total spectrum of environmental problems.

Within the last 2 years, a number of initiatives have been launched by international agencies which reflect broader vision and which, in fact, were devised to encompass the full range of at least the principal facets of the environmental problem. Most important among these initiatives have been:

1. The international biological program, a cooperative research effort by scientists of 50 nations with the objective of making a worldwide study of organic production of the land, in fresh waters and in the sea and a worldwide study of human adaptability to the changing conditions.

2. The Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere, convened and organized by UNESCO, which produced 20 recommendations calling for action by governments, intergovernmental and nongovernmental organizations with respect to various subjects of research; and proposed a long-term intergovernmental and interdisciplinary program. A copy of the conference report, including the recommendations is attached.

3. The meeting of the Preparatory Group for the Meeting of Governmental Experts on Problems Relating to the Environment, held in February 1969 under the auspices of the Economic Commission for Europe (ECE) to prepare the agenda for a meeting of governmental experts to be held at Prague, Czechoslovakia, in 1971. In keeping with the character of ECE, the conference will focus on economic aspects of the environmental problem obtaining within the ECE region (including the United States). A copy of the report of the meeting is attached.

4. The U.N. Conference on Human Environment. This conference was decided upon by unanimous resolution of the U.N. General Assembly on December 3, 1968 (A/Res/2938, XXIII). A copy is attached. Its rationale is the desire "to provide a framework for comprehensive consideration within the United Nations of the problems of human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question and also to identify those aspects of it that can only or best be solved through international cooperation and agreement."

Coincidental with intergovernmental initiatives, others are going forward at the nongovernmental and governmental level. Among the more significant is the appointment by the International Council of Scientific Unions (ICSU) of an "Ad Hoc Committee on Problems of the Human Environment" which will prepare a report on those man-made problems of the environment "which are of international concern" and "toward the solution of which the scientific competence represented by ICSU could effectively be applied."

The U.S. Government has participated in all the above initiatives. It has had a major share in promoting some and in formulating some of the principal conclusions and recommendations, notably by the UNESCO and ECE Conferences.

It is now actively engaged in the preparation of the U.N. Conference and has submitted its proposals on purpose, scope, objectives, and agenda, as requested by the Under Secretary-General of the U.N.

The U.S. interest in the international aspects is profound and real. It is dictated by the realization that the human environment is one, and that it would be fallacious and arbitrary to divorce the inter-

national aspects from the national. It has been fully documented that air and water pollution, to mention but two, are not respecters of international boundaries. Pollutant problems now considered local in character may be regional or international tomorrow and thus we cannot afford to be indifferent nor complacent about global pollution. It is this international nature of the threat and the concomitant need for international cooperation that has already focused U.S. attention on the need for a broad approach to environmental problems.

Speaking to our NATO partners on April 10, 1969, President Nixon said—“(W)e all have a unique opportunity to pool our skills, our intellects and our inventiveness in finding new ways to use technology to enhance our environments * * * recognizing that these problems have no national or regional boundaries.”

Secretary of State Rogers in his appearance before the Senate Foreign Relations Committee emphasized that—

“The fact that * * * we are preparing for a world conference on the human environment is indicative of the degree to which technological development will continue to require institutionalized multilateral cooperation.”

In a sense the deterioration of the environment is only one of many problems that face all nations. But, as Herman Pollack, Director of International Scientific and Technological Affairs pointed out before the House Subcommittee on Science, Research, and Development, it is the one problem that accentuates and aggravates all others: population pressures, inadequate food, shelter, and medical care. To arrest and reverse it, calls for the combined effort of all nations.

It is for this reason, Mr. Chairman, we suggest that with respect to any action taken on the question of environmental quality, recognition should be given to the following facts:

1. The deterioration of the national environment is part of a global process and thus requires remedial action on an international as well as national scale.

2. Study, review, and research must, therefore, be extended to take into account problems and problem areas beyond national borders and to enlist the cooperation of other governments and the scientists of other nations.

3. The solution of the environmental problem being a matter of national interest as well as of international concern, U.S. participation in bilateral and multilateral programs dealing with the international aspects of the problem must be recognized as a vital part of U.S. policy to cope with environmental problems.

The Bureau of the Budget advises that from the standpoint of the administration's program there is no objection to submission of this report.

Sincerely yours,

WILLIAM B. MACOMBER, Jr.,
Assistant Secretary for Congressional Relations.

(The enclosures referred to are in the files of the committee.)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
May 28, 1969.

Hon. HENRY M. JACKSON,
Chairman, Committee on Interior and Insular Affairs,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of March 12, 1969, for a report on S. 1075, a bill "To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality," and your request of March 13, 1969, for a report on S. 237, a bill "To declare a national policy on conservation development, and utilization of natural resources, and maintenance of the quality of the environment, and for other purposes," and your request of April 3, 1969, for a report on S. 1752, the "Resources, Conservation and Environmental Quality Act of 1969."

S. 1075 would authorize the Secretary of the Interior directly or through grants and contracts to (1) conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (2) document and define changes in the natural environment; (3) develop and maintain an inventory of existing and future natural resource development projects and other major projects; (4) establish a system of collecting and receiving information and data on ecological research and evaluation which are in progress or are planned; (5) evaluate and disseminate information of an ecological nature to public and private agencies; (6) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment; (7) initiate and utilize ecological information in the planning and development of resource-oriented projects; (8) encourage other public or private agencies planning development projects to consult with the Secretary of the Interior on the impact of the proposed projects on the natural environment; (9) conduct research and studies within natural areas under Federal ownership; and (10) assist the Council on Environmental Quality that would be established under the legislation.

The bill would not give the Secretary of the Interior authority over programs of other Departments or Agencies of the Government with respect to the natural environment.

The bill would also create in the Executive Office of the President a Council on Environmental Quality composed of three members qualified to interpret environmental trends and be conscious of and responsive to the scientific, economic, social, esthetic and cultural needs and interests of the Nation. The Council would advise and assist the President in the formulation of national policy, annually report on the condition of the environment and review program activity of Federal agencies. These functions would be carried out by studying and analyzing environmental trends and the factors that effect these trends with relation to the conservation, social, economic and health goals of the Nation.

S. 237 would require the President to annually submit to the Congress a report on resources, conservation, and the environment. The report would include the conditions of the environment and other

natural resources, trends in environmental quality and management and utilization of natural resources, adequacy of natural resources to fulfill human and economic requirements, review programs and activities of Federal, State, and local government and nongovernmental entities and individuals and programs to carry out the policies together with recommended legislation.

The bill would also create in the Executive Office of the President a Council of Advisers on Resources, Conservation and the Environment. The function of the Council would be to (1) assist the President in preparing the "Report on Resources, Conservation, and the Environment;" (2) gather timely and authoritative information concerning natural resources conservation, and development of environmental quality trends; (3) appraise the various programs and activities of the Federal Government in light of the declared policy of this legislation; (4) develop and recommend to the President national policies to foster and promote conservation and improve the environment to meet human and economic requirements; (5) make and furnish such studies, reports thereon, and recommendations with respect to matters of Federal resources policy and legislation as the President may request.

S. 237 would also establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment for the purpose of consideration of the "Report on Resources, Conservation, and the Environment."

S. 1752 is very similar to S. 1075, except that in addition to containing similar provisions as S. 1075, the bill (S. 1752) contains provisions similar to those in S. 237 which would establish a joint congressional committee to make studies on matters relating to the Environmental Quality Report, also provided for in the bill. This congressional committee would be known as the Joint Committee on Environmental Quality.

We strongly support an appropriate mechanism for the development of a coordinated national policy on environmental quality. This Department conducts many programs concerned with the environment. These programs almost exclusively concern the effects of environmental stress on human health and welfare. Included in these programs are activities concerned with the effect of environmental forces on man in his home, in the community, and in the workplace, and the environment as it relates to products used by man and their effect on him.

In conducting these programs we have many relationships with other Federal agencies. Some of these are formalized such as that between this Department and the Department of the Interior regarding the public health aspects of water pollution control where the relationship is established by law. Other working relationships are less formal and include, for example, cooperative undertakings conducted through interagency agreements and participation in the activities of committees established under the Federal Council on Science and Technology.

As concern with environmental quality matters has grown and as more Federal agencies have become extensively involved with protecting and improving the environment, it has become obvious to this Department that there is a need for better planning and coordina-

tion of the numerous activities in the environmental area by both the executive and legislative branches of the Government. We are therefore fully in agreement with the objectives of these bills to establish a mechanism for planning and coordinating the environmental quality programs of the Nation.

We are in favor of the objectives in these bills to create in the Executive Office of the President a Council to advise him on matters pertaining to the environment. We would prefer the flexibility of a Council set up administratively. The administration is now considering the establishment of a Council in this manner. Consequently, we do not recommend enactment of the provisions in these bills which would establish by statute such a Council in the executive department.

In regard to the provision of S. 237 which would establish in the Senate and in the House of Representatives a special committee to be known as the Select Committee on Resources, Conservation, and the Environment, and the provision in S. 1752 which would establish a Joint Committee on Environmental Quality, we note there is similar legislation before the Congress such as S. Res. 78, "To establish a Select Committee on Technology and the Human Environment." We defer to the Congress concerning the establishment of this special committee.

With respect to the authorizations in S. 1075 and S. 1752 for the Department of the Interior to conduct studies and research relating to ecological systems and environmental quality, we should like to point out that there are a number of agencies in the executive branch which already have missions and responsibilities bearing on this overall problem. We believe careful consideration and review of all agency activities is needed prior to the enactment of any new authorizations; and such a review is contemplated by the Council referred to above. We note incidentally that both S. 1075 and S. 1752 include provisions specifically stating that the authorizations provided the Department of the Interior would in no way restrict or modify any authority of any other Department or agency of the Government.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

ROBERT H. FINCH, *Secretary.*

○

S. 1075

[Report No. 91-296]

IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 1969

Mr. JACKSON (for himself, Mr. ALLOTT, Mr. ANDERSON, Mr. BELLMON, Mr. BIBLE, Mr. BURDICK, Mr. CHURCH, Mr. FANNIN, Mr. GRAVEL, Mr. HANSEN, Mr. HATFIELD, Mr. JORDAN of Idaho, Mr. MCGOVERN, Mr. METCALF, Mr. MOSS, Mr. NELSON, and Mr. STEVENS) introduced the following bill; which was read twice and referred to the Committee on Interior and Insular Affairs

JULY 9, 1969

Reported by Mr. JACKSON, with amendments

[Strike out all after the enacting clause and insert the part printed in italic]

A BILL

To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That it is the purpose of this Act to promote and foster
4 means and measures which will prevent or effectively re-
5 duce any adverse effects on the quality of the environment
6 in the management and development of the Nation's natural
7 resources; to produce an understanding of the Nation's
8 natural resources and the environmental forces affecting

1 them and responsible for their development and future well-
2 being, and to create and maintain conditions under which
3 man and nature can exist in productive harmony and fulfill
4 the social, economic, and other requirements of present and
5 future generations of Americans, through a comprehensive
6 and continuing program of study, review, and research.

7 TITLE I

8 SEC. 101. The Secretary of the Interior (hereinafter
9 referred to as the "Secretary"), in order to carry out the
10 purposes of this title, is authorized—

11 (a) to conduct investigations, studies, surveys, re-
12 search, and analyses relating to ecological systems and
13 environmental quality;

14 (b) to document and define changes in the natural
15 environment, including the plant and animal systems,
16 and to accumulate necessary data and other information
17 for a continuing analysis of these changes or trends and
18 an interpretation of their underlying causes;

19 (c) to develop and maintain an inventory of exist-
20 ing and future natural resource development projects,
21 engineering works, and other major projects and pro-
22 grams contemplated or planned by public or private
23 agencies or organizations which make significant modi-
24 fications in the natural environment;

25 (d) to establish a system of collecting and receiv-

ing information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals;

(e) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(f) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment.

(g) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(h) to encourage other public or private agencies planning development projects to consult with the Secretary on the impact of the proposed projects on the natural environment;

(i) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Secretary and which are under the jurisdiction of other Federal agencies; and

(j) to assist the Council on Environmental Quality established under title II of this Act.

1 SEC. 102. In carrying out the provisions of this title,
2 the Secretary is authorized to make grants, including train-
3 ing grants, and enter into contracts or cooperative agree-
4 ments with public or private agencies or organizations, or
5 individuals, and to accept and use donations of funds, prop-
6 erty, personal services, or facilities to carry out the purposes
7 of this Act.

8 SEC. 103. The Secretary shall consult with and provide
9 technical assistance to other Federal agencies, and he is au-
10 thorized to obtain from such departments and agencies such
11 information, data, reports, advice, and assistance as he deems
12 necessary or appropriate and which can reasonably be fur-
13 nished by such departments and agencies in carrying out the
14 purposes of this Act. Any Federal agency furnishing advice
15 or assistance hereunder may expend its own funds for such
16 purposes, with or without reimbursement by the Secretary.

17 SEC. 104. The Secretary is authorized to participate in
18 environmental research in surrounding oceans and in other
19 countries in cooperation with appropriate departments or
20 agencies of such countries or with coordinating international
21 organizations if he determines that such activities will con-
22 tribute to the objectives and purposes of this Act.

23 SEC. 105. Nothing in this Act is intended to give, or
24 shall be construed as giving, the Secretary any authority
25 over any of the authorized programs of any other depart-

1 ment or agency of the Government, or as repealing,
2 modifying, restricting, or amending existing authorities or
3 responsibilities that any department or agency may have
4 with respect to the natural environment. The Secretary shall
5 consult with the heads of such departments and agencies for
6 the purpose of identifying and eliminating any unnecessary
7 duplication of effort.

8 SEC. 106. There are hereby authorized to be appro-
9 priated such sums as may be necessary to carry out the
10 purposes of this title.

11 TITLE II

12 SEC. 201. There is created in the Executive Office of
13 the President a Council on Environmental Quality (here-
14 inafter referred to as the "Council"). The Council shall be
15 composed of three members who shall be appointed by
16 the President to serve at his pleasure, by and with the
17 advice and consent of the Senate. Each member shall, as a
18 result of training, experience, or attainments, be profes-
19 sionally qualified to analyze and interpret environmental
20 trends of all kinds and descriptions and shall be conscious
21 of and responsive to the scientific, economic, social, esthetic,
22 and cultural needs and interest of this Nation. The President
23 shall designate the Chairman and Vice Chairman of the
24 Council from such members.

1 SEC. 202. ~~(a)~~ The primary function of the Council
2 shall be to study and analyze environmental trends and the
3 factors that effect these trends, relating each area of study
4 and analysis to the conservation, social, economic, and
5 health goals of this Nation. In carrying out this function,
6 the Council shall—

7 ~~(1)~~ report at least once each year to the Presi-
8 dent on the state and condition of the environment;

9 ~~(2)~~ provide advice and assistance to the President
10 on the formulation of national policies to foster and pro-
11 mote the improvement of environmental quality;

12 ~~(3)~~ obtain information using existing sources, to the
13 greatest extent practicable, concerning the quality of the
14 environment and make such information available to
15 the public.

16 ~~(b)~~ The Council shall periodically review and appraise
17 new and existing programs and activities carried out directly
18 by Federal agencies or through financial assistance and make
19 recommendations thereon to the President.

20 ~~(c)~~ It shall be the duty and function of the Council
21 and the Secretary of the Interior to assist and advise the
22 President in the preparation of the biennial environment
23 quality report required under section 203.

24 SEC. 203. The President shall transmit to the Congress

1 annually beginning June 30, 1970, an environmental quality
2 report which shall set forth ~~(a)~~ the status and condition of
3 the major natural, manmade, or altered environmental
4 classes of the Nation, including, but not limited to, the air,
5 the aquatic including marine, estuarine, and fresh water, and
6 the terrestrial environment, including, but not limited to, the
7 forest dryland, wetland, range, urban suburban and rural
8 environment; and ~~(b)~~ current and foreseeable trends in
9 quality management, and utilization of such environments
10 and the effects of those trends on the social, economic, and
11 other requirements of the Nation.

12 SEC. 204. The Council may employ such officers and
13 employees as may be necessary to carry out its functions
14 under this Act. In addition, the Council may employ and fix
15 the compensation of such experts and consultants as may be
16 necessary for the carrying out of its functions under this Act,
17 in accordance with section 3109 of title 5, United States
18 Code ~~(but without regard to the last sentence thereof)~~.

19 SEC. 205. There are hereby authorized to be appropri-
20 ated such sums as are necessary to carry out the purposes of
21 this title.

22 *SHORT TITLE*

23 SEC. 1. *That this Act may be cited as the "National*
24 *Environmental Policy Act of 1969".*

PURPOSE

1
2 *SEC. 2. The purposes of this Act are: To declare a*
3 *national policy which will encourage productive and enjoyable*
4 *harmony between man and his environment; to promote efforts*
5 *which will prevent or eliminate damage to the environment*
6 *and biosphere and stimulate the health and welfare of man;*
7 *to enrich the understanding of the ecological systems and*
8 *natural resources important to the Nation; and to establish*
9 *a Board of Environmental Quality Advisers.*

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

11
12 *SEC. 101. (a) The Congress, recognizing that man de-*
13 *pends on his biological and physical surroundings for food,*
14 *shelter, and other needs, and for cultural enrichment as well;*
15 *and recognizing further the profound influences of popula-*
16 *tion growth, high-density urbanization, industrial expansion,*
17 *resource exploitation, and new and expanding technological*
18 *advances on our physical and biological surroundings and*
19 *on the quality of life available to the American people; hereby*
20 *declares that it is the continuing policy and responsibility of*
21 *the Federal Government to use all practicable means, con-*
22 *sistent with other essential considerations of national policy,*
23 *to improve and coordinate Federal plans, functions, pro-*
24 *grams, and resources to the end that the Nation may—*

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the

1 *policies, regulations, and public laws of the United States, to*
2 *the fullest extent possible, be interpreted and administered in*
3 *accordance with the policies set forth in this Act, and that*
4 *all agencies of the Federal Government—*

5 *(a) utilize to the fullest extent possible a systematic,*
6 *interdisciplinary approach which will insure the inte-*
7 *grated use of the natural and social sciences and the*
8 *environmental design arts in planning and in decision-*
9 *making which may have an impact on man's environ-*
10 *ment;*

11 *(b) identify and develop methods and procedures*
12 *which will insure that presently unquantified environ-*
13 *mental amenities and values may be given appropriate*
14 *consideration in decisionmaking along with economic and*
15 *technical considerations;*

16 *(c) include in every recommendation or report on*
17 *proposals for legislation and other major Federal actions*
18 *significantly affecting the quality of the human environ-*
19 *ment, a finding by the responsible official that—*

20 *(i) the environmental impact of the proposed*
21 *action has been studied and considered;*

22 *(ii) any adverse environmental effects which*
23 *cannot be avoided by following reasonable alterna-*
24 *tives are justified by other stated considerations of*
25 *national policy;*

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and that

(iv) any irreversible and irretrievable commitments of resources are warranted.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water, or air;

(e) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

(f) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress such measures as may be necessary to make their authority consistent with this Act.

SEC. 103. The policies and goals set forth in this Act are supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

TITLE II

SEC. 201. To carry out the purposes of this Act, all agencies of the Federal Government in conjunction with their existing programs and authorities, are hereby authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(d) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(e) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(f) to conduct research and studies within natural

1 *areas under Federal ownership which are under the*
2 *jurisdiction of the Federal agencies; and*

3 *(g) to assist the Board of Environmental Quality*
4 *Advisers established under title III of this Act and any*
5 *council or committee established by the President to deal*
6 *with environmental problems.*

7 *SEC. 202. (a) In carrying out the provisions of this title,*
8 *the President is authorized to designate an agency or agencies*
9 *to—*

10 *(1) make grants, including training grants, and*
11 *enter into contracts or cooperative agreements with public*
12 *or private agencies or organizations, or individuals, and*
13 *to accept and use donations of funds, property, personal*
14 *services, or facilities to carry out the purposes of this*
15 *Act;*

16 *(2) develop and maintain an inventory of exist-*
17 *ing and future natural resource development projects,*
18 *engineering works, and other major projects and pro-*
19 *grams contemplated or planned by public or private*
20 *agencies or organizations which make significant modi-*
21 *fications in the natural environment;*

22 *(3) establish a system of collecting and receiv-*
23 *ing information and data on ecological research and*

1 evaluations which are in progress or are planned by other
2 public or private agencies or organizations, or indi-
3 viduals; and

4 (4) assist and advise State and local government,
5 and private enterprise in bringing their activities into
6 conformity with the purposes of this Act and other Acts
7 designed to enhance the quality of the environment.

8 (b) There are hereby authorized to be appropriated
9 \$500,000 annually for fiscal years 1971 and 1972, and
10 \$1,000,000 for each fiscal year thereafter.

11 SEC. 203. In recognition of the additional duties which
12 the President may assign to the Office of Science and Tech-
13 nology to support any council or committee established by
14 the President to deal with environmental problems and in
15 furtherance of the policies established by this Act, there is
16 hereby established in the Office of Science and Technology
17 an additional office with the title "Deputy Director of the
18 Office of Science and Technology." The Deputy Director
19 shall be appointed by the President by and with the advice
20 and consent of the Senate, shall perform such duties as the
21 Director of the Office of Science and Technology shall from
22 time to time direct, and shall be compensated at the rate pro-
23 vided for level IV of the Executive Schedule Pay Rates
24 (5 U.S.C. 5315).

TITLE III

1
2 *SEC. 301. (a) There is created in the Executive Office of*
3 *the President a Board of Environmental Quality Advisers*
4 *(hereinafter referred to as the "Board"). The Board shall*
5 *be composed of three members who shall be appointed by*
6 *the President to serve at his pleasure, by and with the*
7 *advice and consent of the Senate. Each member shall, as a*
8 *result of training, experience, or attainments, be profes-*
9 *sionally qualified to analyze and interpret environmental*
10 *trends of all kinds and descriptions and shall be conscious*
11 *of and responsive to the scientific, economic, social, esthetic,*
12 *and cultural needs and interest of this Nation. The President*
13 *shall designate the Chairman and Vice Chairman of the*
14 *Board from such members.*

15 *(b) Members of the Board shall serve full time and the*
16 *Chairman of the Board shall be compensated at the rate*
17 *provided for Level II of the Executive Schedule Pay Rates*
18 *(5 U.S.C. 5313). The other members of the Board shall be*
19 *compensated at the rate provided for Level IV of the Execu-*
20 *tive Schedule Pay Rates (5 U.S.C. 5315).*

21 *SEC. 302. (a) The primary function of the Board*
22 *shall be to study and analyze environmental trends and the*
23 *factors that effect these trends, relating each area of study*
24 *and analysis to the conservation, social, economic, and*

1 health goals of this Nation. In carrying out this function,
2 the Board shall—

3 (1) report at least once each year to the Presi-
4 dent on the state and condition of the environment;

5 (2) provide advice, assistance, and staff support to
6 the President on the formulation of national policies to
7 foster and promote the improvement of environmental
8 quality; and

9 (3) obtain information using existing sources, to the
10 greatest extent practicable, concerning the quality of the
11 environment and make such information available to
12 the public.

13 (b) The Board shall periodically review and appraise
14 Federal programs, projects, activities, and policies which
15 affect the quality of the environment and make recommenda-
16 tions thereon to the President.

17 (c) It shall be the duty and function of the Board
18 to assist and advise the President in the preparation of the
19 annual environmental quality report required under section
20 303.

21 (d) The Board and the Office of Science and Tech-
22 nology shall carry out their duties under the provisions of
23 this Act at the direction of the President and shall perform
24 whatever additional duties he may from time to time direct.

25 SEC. 303. The President shall transmit to the Congress,

1 *beginning June 30, 1970, an annual environmental quality*
2 *report which shall set forth: (a) the status and condition*
3 *of the major natural, manmade, or altered environmental*
4 *classes of the Nation; and (b) current and foreseeable trends*
5 *in quality, management, and utilization of such environments*
6 *and the effects of those trends on the social, economic, and*
7 *other requirements of the Nation.*

8 *SEC. 304. The Board may employ such officers and*
9 *employees as may be necessary to carry out its functions*
10 *under this Act. In addition, the Board may employ and fix*
11 *the compensation of such experts and consultants as may be*
12 *necessary for the carrying out of its functions under this Act,*
13 *in accordance with section 3109 of title 5, United States*
14 *Code (but without regard to the last sentence thereof).*

15 *SEC. 305. There are hereby authorized to be appropri-*
16 *ated \$1,000,000 annually to carry out the purposes of*
17 *this title.*

Amend the title so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."

A BILL

To authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

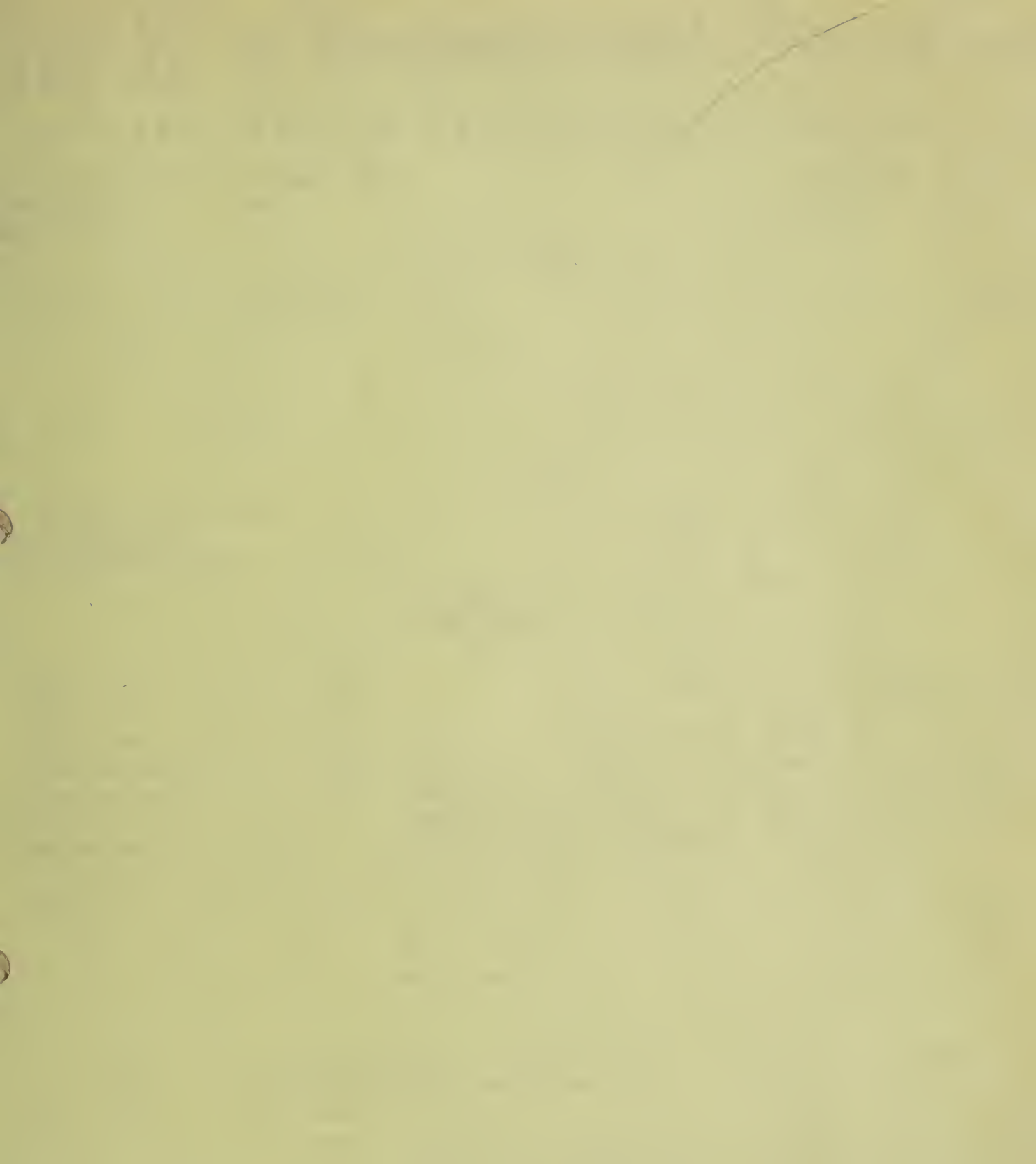
By Mr. JACKSON, Mr. ALLOTY, Mr. ANDERSON,
Mr. BELLMON, Mr. BIBLE, Mr. BURDICK, Mr.
CHURCH, Mr. FANNIN, Mr. GRAVEL, Mr.
HANSEN, Mr. HATFIELD, Mr. JORDAN of
Idaho, Mr. MCGOVERN, Mr. METCALF, Mr.
MOSS, Mr. NELSON, and Mr. STEVENS

FEBRUARY 18, 1969

Read twice and referred to the Committee on Interior
and Insular Affairs

JULY 9, 1969

Reported with amendments



S. 1075

J. B. W. L.

DIGEST of Congressional Proceedings

OF INTEREST TO THE DEPARTMENT OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C. 20250
OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

OFFICE OF BUDGET AND FINANCE
(FOR INFORMATION ONLY;
NOT TO BE QUOTED OR CITED)

Issued July 11, 1969
For actions of July 10, 1969
91st 1st No. 114

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HIGHLIGHTS: House Appropriations Committee reported Interior appropriation bill. Rep. Mize congratulated Secretary Hardin and Ass't Secretary Palmby for "understanding of the importance of foreign wheat sales." Rep. Podell and Sen. Nelson asked ban on certain pesticides. Senate passed environmental quality policy and Calif. disaster relief bills. Rep. Tunney commended passage of Calif. disaster relief bill.

HOUSE

1. APPROPRIATIONS. The Appropriations Committee reported H. R. 12781, the Department of Interior and related agencies appropriation bill, 1970 (H. Rept. 91-361) (p. H5867). A table reflecting the items for the Forest Service and significant excerpts from the report is attached to this Digest.
2. WILDLIFE; ENVIRONMENTAL QUALITY. The Merchant Marine and Fisheries Committee voted to report (but did not actually report) H. R. 11363, to prevent the importation of endangered species of fish or wildlife into the U. S.; to prevent the interstate shipment of reptiles, amphibians, and other wildlife taken contrary to State law. p. D613
The Merchant Marine and Fisheries Committee voted to report (but did not actually report) H. R. 12549, to establish a Council on Environmental Quality (p. D613) and was granted until midnight July 12 to file a report (p. H5802).
3. INFORMATION. Passed as reported H. R. 4284, to authorize to be appropriated to the Commerce Dept. such sums as may be necessary for fiscal years 1970 and 1971, but not to exceed a total of \$6 million, to carry out the work of the standard reference data system which seeks to deal with one aspect of the broad science information problem by producing and disseminating compilations of critically evaluated data on the physical and chemical properties of materials. pp. H5805-6, H5814-19
4. WATERSHEDS. The "Daily Digest" states that a subcommittee of the Agriculture Committee "approved for full committee action a number of watershed projects." p. D611
5. PESTICIDES. Rep. Podell stated now that USDA has temporarily "suspended use of DDT and eight other 'hard' pesticide compounds in its programs" it would be desirable to advise the Nation's farmers not to use these chemicals. p. H5801
6. POLLUTION. Rep. Obey criticized the administration's "request for just \$214 million to fund water pollution programs for fiscal year 1970---instead of the \$1 billion promised." p. H5821
Rep. Dingell inserted replies from the State Governors to his letter asking for information on the impact of the water pollution control and abatement programs "short-funding" in their States. pp. H5826-45
7. FOREIGN AID. Rep. Gross criticized an announcement by a religious leader in India that "he is going to burn 9,000 tons of food...in a sacrifice that is supposed to 'foster universal peace and the welfare and prosperity of the human race.'" He stated this same ceremony was performed last year also and did not think the American people should be called upon to subsidize this. pp. H5825-6
8. SAVINGS BONDS. Rep. Fascell spoke in support of raising the interest on series E and H U. S. savings bonds and inserted an editorial on the subject. p. H5855-56

10. TAXATION. Rep. Reuss commended and inserted an editorial urging "the Senate to hold the surtax extension bill hostage until a meaningful tax reform package is attached to it." p. H5851
11. WHEAT. Rep. Mize congratulated Secretary Hardin for calling high level meetings on the future of wheat exports under the provisions of the International Grains Arrangement and Assistant Secretary Palmby for his "no-nonsense statement on the deficiencies of the IGA." p. H5826
12. ADJOURNED until Mon., July 14. p. H5866

SENATE

13. ENVIRONMENTAL QUALITY. Passed as reported S. 1075, to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers. pp. S7813-9
14. DISASTER RELIEF. Passed with amendment (to substitute the language of S. 1685, as passed by the Senate on July 8) H. R. 6508, the Calif. disaster relief bill. pp. S7822-3
15. FOREIGN TRADE. Sen. Hollings discussed the effect of U. S. foreign trade policy on basic manufacturing industries. pp. S7805-13
16. PERSONNEL; LEAVE Received from the Civil Service Commission a proposed bill to improve the administration of the leave system for Federal employees by amending title 5, U. S. Code; to the Post Office and Civil Service Committee. p. S7827
17. RECREATION. Sen. Yarborough inserted a resolution passed by the Il Penseroso Jr. Study Club of Lockney, Tex., urging establishment of a 100,000---acre Big Thicket National Park. p. S7848
18. WILDLIFE. Sen. Hollings inserted a S. C. General Assembly resolution requesting that State and Federal agencies not take any action toward making the Congaree River or the Wateree River navigable until S.C. determines ... that such navigability would not interfere with the propagation of striped bass. p. S7853
19. PESTICIDES. Sen. Nelson urged further action to control the use of persistent pesticides and inserted articles reporting the Department's recent announcement of the suspension of the use of certain pesticides (pp. S7853-4) and inserted articles discussing a possible link between cancer and the use of certain pesticides (pp. S7855-6).

EXTENSION OF REMARKS

20. POPULATION. Rep. Scheuer commended and inserted a report prepared by a panel established by the United Nations Association of the United States of America on the world population situation and stated that he will sponsor a resolution urging the President to make the recommendations of the report part of our foreign policy. pp. E5771-2
21. FARM LABOR. Sen. Yarborough commended Cesar Chavez for bringing the "problems of the migrant worker and especially the Mexican American to the attention and the conscience of the United States" and inserted numerous articles praising Mr. Chavez. pp. E5772-92
22. OPINION POLL. Rep. Latta inserted the results of a questionnaire including items of interest to this Department. p. E5796
23. PESTICIDES. Rep. Dingell inserted an article "setting forth the dangers of persistent pesticides such as DDT." p. E5805
24. DISASTER RELIEF. Speech in the House by Rep. Tunney during debate on the Calif. disaster relief bill expressing gratitude to the Public Works Committee for having processed the bill "so expeditiously." p. E5806
25. TAXATION. Rep. Gilbert inserted the text of a tax message he mailed to his constituents informing them of his position on tax legislation. p. E5816
Rep. Rodino inserted a resolution from the National School Supply and Equipment Association supporting the proposed Interstate Taxation Act. p. E5844
26. PERSONNEL. Rep. Kastenmeier spoke in support of proposed legislation requiring the Federal Government to progressively increase its contribution to the employees' health benefits program until it eventually assumes its entire cost. pp. E5821-2
27. CONSUMERS. Rep. Eckhardt inserted a Neighborhood Consumer Information Center report on the problems and solutions of low-income consumers. pp. E5828
29. POLLUTION. Rep. Blatnik discussed and inserted articles on thermal pollution. pp. E5861-2

BILLS INTRODUCED

30. PERSONNEL. H. R. 12738 by Rep. Helstoski, to amend chapter 83, title 5, U.S.C., to eliminate the reduction in the annuities of employees or Members who elected reduced annuities in order to provide a survivor annuity if predeceased by the person named as survivor and permit a retired employee or Member to designate a new spouse as survivor if predeceased by the person named as survivor at the time of retirement; to Post Office and Civil Service Committee.
H. R. 12739 by Rep. Helstoski, to provide increased annuities under the Civil Service Retirement Act; to Post Office and Civil Service Committee.

TABLE 6.—U.S. MILL CONSUMPTION OF ALL FIBERS, COMPARED TO THE FIBER CONTENT OF IMPORTS AND EXPORTS OF ALL SEMI-MANUFACTURED AND MANUFACTURED TEXTILE AND APPAREL PRODUCTS, AND APPARENT DOMESTIC CONSUMPTION, 1961-68

[In millions of pounds]

| Year | Mill consumption | Imports | Exports | Apparent domestic consumption | Imports as a percent of domestic consumption |
|-------------------|------------------|---------|---------|-------------------------------|--|
| 1961 | 6,567.0 | 333.6 | 326.0 | 6,574.6 | 5.1 |
| 1962 | 7,048.0 | 485.4 | 313.4 | 7,220.0 | 6.7 |
| 1963 | 7,252.8 | 492.7 | 307.6 | 7,437.9 | 6.6 |
| 1964 | 7,789.6 | 491.2 | 325.5 | 7,955.3 | 6.2 |
| 1965 | 8,501.9 | 595.7 | 320.2 | 8,777.4 | 6.8 |
| 1966 | 9,017.6 | 771.4 | 342.8 | 9,446.2 | 8.2 |
| 1967 | 8,986.3 | 697.7 | 333.0 | 9,351.0 | 7.5 |
| 1968 ¹ | 9,668.0 | 784.3 | 324.0 | 10,131.3 | 7.7 |

¹ Preliminary.

Source: U.S. Department of Agriculture.

TABLE 7.—U.S. MILL CONSUMPTION OF MANMADE FIBERS, COMPARED TO THE MANMADE FIBER CONTENT OF IMPORTS AND EXPORTS OF SEMI-MANUFACTURED AND MANUFACTURED TEXTILE AND APPAREL PRODUCTS, AND APPARENT DOMESTIC CONSUMPTION

[In millions of dollars]

| Year | Mill consumption | Imports | Exports | Apparent domestic consumption | Imports as a percent of domestic consumption |
|-------------------|------------------|---------|---------|-------------------------------|--|
| 1961 | 2,057.7 | 23.2 | 82.5 | 1,998.4 | 1.2 |
| 1962 | 2,418.5 | 30.0 | 89.0 | 2,359.5 | 1.3 |
| 1963 | 2,787.8 | 35.9 | 95.1 | 2,728.6 | 1.3 |
| 1964 | 3,174.3 | 49.9 | 105.7 | 3,118.5 | 1.6 |
| 1965 | 3,624.1 | 79.0 | 131.2 | 3,571.9 | 2.2 |
| 1966 | 4,002.2 | 121.5 | 141.0 | 3,982.7 | 3.1 |
| 1967 | 4,240.4 | 137.5 | 134.4 | 4,243.5 | 3.2 |
| 1968 ¹ | 5,175.0 | 172.4 | 124.0 | 5,223.4 | 3.3 |

¹ Estimated.

Source: U.S. Department of Agriculture.

Mr. COTTON. Mr. President, will the Senator yield?

Mr. HOLLINGS. I yield to the Senator from New Hampshire.

Mr. COTTON. Mr. President, I compliment the distinguished Senator from South Carolina for this masterly analysis of the desperate situation which confronts the textile industry, as well as other industries in this Nation. I commend him not only for his analysis, but particularly for the concluding words of his speech, in which he justifiably states that the time has come for something more than words. It is time for action on the part of Congress.

As the distinguished Senator knows, I have been in conference with him, and shall wish to join him when he introduces the bill which he is preparing. I have two bills of my own before the Senate on this subject.

In my own State, where we have lost the bulk of our textile industry, we find we are now going down the same road with the shoe industry, which is vital to my section of the country. Eleven plants have recently closed, seven of them within the last 3 years. Nearly 3,000 jobs have been destroyed, and, in the last 6 months, the trend has speeded up to the point where we have lost over a thousand more jobs in the shoe industry alone.

The PRESIDING OFFICER. Under the previous order, the time of the Senator from South Carolina has expired.

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the Senator's time be extended 5 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. COTTON. I shall only use 2 of those minutes.

Mr. President, I shall not take the further time of the Senate, except to repeat, in a few sentences, what I said when the Senator from Georgia made his speech to the Senate on this subject the other day.

This is not in any way a reflection upon the very able speech of the Senator from South Carolina—but time after time we have had a field day in the Senate, and Senators have delivered speech after speech about this situation, but it has ended here and been limited to talk.

Now the straws in the wind indicate that the present administration is preparing or is inclined, at least, to follow the example of the administrations of President Johnson, President Kennedy, and President Eisenhower, and place our foreign relations and the attitude of the State Department ahead of the preservation of American jobs.

I am a friend and admirer of the President of the United States, and I am with him 98 percent of the time, I hope. But the time has come to do something more than talk; and the opportunity will be before the Senate within a very few days to indicate our intent to do something about this situation. I think such an indication would strengthen the administration rather than hurt it, because it is time that the world should know and the country should know that Congress is prepared to perform its duty to save the jobs provided by American industry.

I commend the Senator from South Carolina.

Mr. HOLLINGS. Mr. President, I thank the Senator from New Hampshire for his remarks. The Senator from New Hampshire has given most distinguished leadership in Congress over a period of a decade or more in an effort to present to Congress the desperate situation of textile industry employment in America.

The Senator from New Hampshire as the senior committee member on the minority side, and the Senator from Rhode Island (Mr. PASTORE) as a member of the Special Textile Committee and as the senior committee member on the majority side, have led the fight over the years.

Rather than talk, we have given hard statistical information and gotten down to the root of the problem and told it like it is.

As the Senator from Missouri stated the day before yesterday with reference to the importers' position in his brief remarks:

Let us lay the facts on the table and then talk in adjectives and specific language.

I thought it was time to get to the facts.

Mr. MURPHY. Mr. President, will the Senator yield?

Mr. HOLLINGS. I yield.

Mr. MURPHY. Mr. President, I asso-

ciate myself with the remarks of the distinguished Senator. I have never heard the case stated more clearly and the problem put forth in a more practical and understandable way.

In my State, the manufacturing industry depends upon the textile industry as the eighth largest in the State. It has a payroll of \$280 million a year. It is worthy of all our consideration. The industry employs 68,000 people, of whom 50,000 people are employed in my particular area of Los Angeles.

The PRESIDING OFFICER. The time of the Senator has expired.

Mr. MURPHY. Mr. President, I ask unanimous consent for an additional 2 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. MURPHY. Mr. President, I point out that there are 230,000 businesses, mainly small. They form the main strength and backbone of this industrial complex that we call America. Large numbers of the members of the minority groups who need special help are employed in the industry.

I point out to the distinguished Senator from South Carolina that as the story is told and as the bill comes up for consideration, I would like to do whatever I can to join enthusiastically with the Senator and others in this most needed concern for this particular industry.

Mr. HOLLINGS. Mr. President, the distinguished Senator from California (Mr. MURPHY) was a strong worker and supporter of a similar measure in the past. There is industrywide support in California. As we emphasize the need for this measure and as we see southern support for the northern textile industry, we are talking about a national industry.

Mr. BAKER. Mr. President, I would like to associate myself with the concern for the textile import problem that the distinguished junior Senator from South Carolina has expressed. The textile industry is the largest manufacturing employer in the State of Tennessee, with many plants being located in rural areas. I am particularly concerned that jobs for workers in these areas may be jeopardized. I am most hopeful that the Nixon administration will be able to negotiate a fair and reasonable voluntary import quota system.

The PRESIDING OFFICER. Under the previous order, the Chair recognizes the Senator from Florida for 15 minutes.

Mr. HOLLAND. Mr. President, I understand that the distinguished majority leader wishes me to yield briefly.

Mr. MANSFIELD. Without losing his rights to the floor.

The PRESIDING OFFICER. Without objection, it is so ordered.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the Senate proceed to the consideration of Calendar No. 287, S. 1075.

The PRESIDING OFFICER. The bill will be stated by title.

The LEGISLATIVE CLERK. A bill (S. 1075) to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality.

The PRESIDING OFFICER. Is there objection to the present consideration of the bill?

There being no objection, the Senate proceeded to consider the bill, which had been reported from the Committee on Interior and Insular Affairs, with an amendment, to strike out all after the enacting clause and insert:

SHORT TITLE

SEC. 1. That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisers.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances on our physical and biological surroundings and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a widening of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations, and public laws of the United States, to the fullest extent possible, be interpreted and administered in accordance with the policies set

forth in this Act, and that all agencies of the Federal Government—

(a) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(b) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(c) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a finding by the responsible official that—

(i) the environmental impact of the proposed action has been studied and considered;

(ii) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by other stated considerations of national policy;

(iii) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and that

(iv) any irreversible and irretrievable commitments of resources are warranted.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water, or air;

(e) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

(f) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress such measures as may be necessary to make their authority consistent with this Act.

SEC. 103. The policies and goals set forth in this Act are supplementary to, but shall not be considered to repeal the existing mandates and authorizations of Federal agencies.

TITLE II

SEC. 201. To carry out the purposes of this Act, all agencies of the Federal Government in conjunction with their existing programs and authorities, are hereby authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(c) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps;

(d) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring maintaining, and enhancing the quality of the environment;

(e) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(f) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Federal agencies; and

(g) to assist the Board of Environmental Quality Advisers established under title III of this Act and any council or committee established by the President to deal with environmental problems.

SEC. 202. (a) In carrying out the provisions of this title, the President is authorized to designate an agency or agencies to—

(1) make grants, including training grants, and enter into contracts or cooperative agreements with public or private agencies or organizations, or individuals, and to accept and use donations of funds, property, personal services, or facilities to carry out the purposes of this Act;

(2) develop and maintain an inventory of existing and future natural resource development projects, engineering works, and other major projects and programs contemplated or planned by public or private agencies or organizations which make significant modifications in the natural environment;

(3) establish a system of collecting and receiving information and data on ecological research and evaluations which are in progress or are planned by other public or private agencies or organizations, or individuals; and

(4) assist and advise State and local government, and private enterprise in bringing their activities into conformity with the purposes of this Act and other Acts designed to enhance the quality of the environment.

(b) There are hereby authorized to be appropriated \$500,000 annually for fiscal years 1971 and 1972, and \$1,000,000 for each fiscal year thereafter.

SEC. 203. In recognition of the additional duties which the President may assign to the Office of Science and Technology to support any council or committee established by the President to deal with environmental problems and in furtherance of the policies established by this Act, there is hereby established in the Office of Science and Technology an additional office with the title "Deputy Director of the Office of Science and Technology." The Deputy Director shall be appointed by the President by and with the advice and consent of the Senate, shall perform such duties as the Director of the Office of Science and Technology shall from time to time direct, and shall be compensated at the rate provided for level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

TITLE III

SEC. 301. (a) There is created in the Executive Office of the President a Board of Environmental Quality Advisers (hereinafter referred to as the "Board"). The Board shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Board from such members.

(b) Members of the Board shall serve full time and the Chairman of the Board shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Board shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 302. (a) The primary function of the Board shall be to study and analyze environmental trends and the factors that effects these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Board shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice, assistance, and staff support to the President on the formulation of national policies to foster and promote the improvement of environmental quality; and

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment and make recommendations thereon to the President.

(c) It shall be the duty and function of the Board to assist and advise the President in the preparation of the annual environmental quality report required under section 303.

(d) The Board and the Office of Science and Technology shall carry out their duties under the provisions of this Act at the direction of the President and shall perform whatever additional duties he may from time to time direct.

SEC. 303. The President shall transmit to the Congress, beginning June 30, 1970, an annual environmental quality report which shall set forth: (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

SEC. 304. The Board may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Board may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 305. There are hereby authorized to be appropriated \$1,000,000 annually to carry out the purposes of this title.

Mr. JACKSON. Mr. President, the bill was reported unanimously from the Senate Committee on Interior and Insular Affairs. The ranking minority member of the committee, the Senator from Colorado (Mr. ALLOTT), is here. He will concur that the committee went into this matter in great detail. We have had it under consideration for some time, and the bill was given the unanimous support of the committee.

Mr. ALLOTT. Mr. President, that is entirely correct. I add that I concur in the statement which I believe the distinguished chairman of the committee is going to make for the RECORD.

Mr. JACKSON. Mr. President, S. 1075, the National Environmental Policy Act of 1969, as amended and as reported by the Senate Interior and Insular Affairs Committee on July 8, 1969, is in my judgment the most significant and important measure in the area of long-range domestic policymaking that will come before the 91st Congress. Without question, it is the most significant measure in the area of natural resource policy ever considered by the Congress.

As reported by the committee, S. 1075 provides a considered congressional statement of national goals and purposes for the management and preservation of the quality of America's future environment. The bill directs that all Federal agencies conduct their activities in accordance with these goals, and provides

"action-forcing" procedures to insure that these goals and principles are observed. The bill specifically provides that its provisions are supplemental to the existing mandates and authorizations of all Federal agencies. This constitutes a statutory enlargement of the responsibilities and the concerns of all instrumentalities of the Federal Government.

Title II grants new authority to agencies of the Federal Government to engage in research and to incorporate the results of this ecological and environmental quality research into all of their planning and development activities. In addition, title II strengthens the Office of Science and Technology's capabilities in the area of coordinating Federal environmental management activities by adding the new position of Deputy Director.

Title III, of the measure creates a Board of Environmental Quality Advisers in the Executive Office of the President. Both the Board of Environmental Advisers and the Office of Science and Technology are to carry out their duties under the bill at the direction of the President.

The Board is directed to provide a continuing study and analysis of environmental trends, the factors which effect these trends, and to relate each area of study and analysis to the conservation, social, economic, and health goals of the Nation.

Finally, S. 1075 requires the submission by the President to the Congress and to the American people of an annual environmental quality report. The purpose of this report is to provide a statement of progress, to establish some baselines, and to tell us how well—or as some suspect, how bad—we are doing in managing the environment—the Nation's life support system.

In many respects, the only precedent and parallel to what is proposed in S. 1075 is in the Full Employment Act of 1946, which declared an historic national policy on management of the economy and established the Council of Economic Advisers. It is my view that S. 1075 will provide an equally important national policy for the management of America's future environment.

Mr. President, a statement of environmental policy is more than a statement of what we believe as a people and as a Nation. It establishes priorities and gives expression to our national goals and aspirations. It serves a constitutional function in that administrators may refer to it for guidance in making decisions which find environmental values in conflict with other values.

What is involved is a congressional declaration that we do not intend, as a government or as a people, to initiate actions which endanger the continued existence or the health of mankind. That we will not intentionally initiate actions which will do irreparable damage to the air, land, and water which support life on earth.

An environmental policy is a policy for people. Its primary concern is with man and his future. The basic principle of the policy is that we must strive, in all that we do, to achieve a stand-

ard of excellence in man's relationships to his physical surroundings. If there are to be departures from the standard, they will be exceptions to the rule and the policy. And as exceptions, they will have to be justified in the light of public scrutiny.

The Senate Interior and Insular Affairs Committee has devoted a great deal of time to this legislation over the past few years. The members of the committee and the Senate as a whole can be justifiably proud of this measure. It returns to the Congress the responsibility and the initiative for domestic policymaking in this important area of national concern. At the same time, the measure is designed to complement the President's recently established interagency, Cabinet-level Council on the Environment and the responsibilities of the Federal agencies in the field of environmental management.

Mr. President, I ask unanimous consent that selected portions of the committee's report on this measure be printed in the RECORD.

There being no objection, the excerpt from the report was ordered to be printed in the RECORD, as follows:

EXCERPT FROM COMMITTEE ON INTERIOR AND INSULAR AFFAIRS REPORT ON S. 1075

INTRODUCTION

It is the unanimous view of the members of the Interior and Insular Affairs Committee that our Nation's present state of knowledge, our established public policies, and our existing governmental institutions are not adequate to deal with the growing environmental problems and crises the Nation faces.

The inadequacy of present knowledge, policies, and institutions is reflected in our Nation's history, in our national attitudes, and in our contemporary life. We see increasing evidence of this inadequacy all around us: haphazard urban and suburban growth; crowding, congestion, and conditions within our central cities which result in civil unrest and detract from man's social and psychological well-being; the loss of valuable open spaces; inconsistent and, often, incoherent rural and urban land-use policies; critical air and water pollution problems; diminishing recreational opportunity; continuing soil erosion; the degradation of unique ecosystems; needless deforestation; the decline and extinction of fish and wildlife species; faltering and poorly designed transportation systems; poor architectural design and ugliness in public and private structures; rising levels of noise; the continued proliferation of pesticides and chemicals without adequate consideration of the consequences; radiation hazards; thermal pollution; an increasingly ugly landscape cluttered with billboards, powerlines, and junkyards; and many, many other environmental quality problems.

Traditional national policies and programs were not designed to achieve these conditions. But they were not designed to avoid them either. And, as a result, they were not avoided in the past. They are not being avoided today.

Traditional policies were primarily designed to enhance the production of goods and to increase the gross national product. As a nation, we have been very successful at these endeavors. Our gross national product is approaching \$900 billion a year. The American people enjoy the highest standard of living in the world. Our technological ability is unrivaled. But, as a nation, we have paid a price for our material well-being. That price may be seen today in the declining quality of the American environment.

As the evidence of environmental decay and degradation mounts, it becomes clearer each day that the Nation cannot continue to pay the price of past abuse. The costs of air and water pollution, poor land-use policies and urban decay can no longer be deferred for payment by future generations. These problems must be faced while they are still of manageable proportions and while alternative solutions are still available.

If the United States is to create and maintain a balanced and healthful environment, new means and procedures to preserve environmental values in the larger public interest, to coordinate Government activities that shape our future environment, and to provide guidance and incentives for State and local government and for private enterprise must be devised.

In spite of the growing public recognition of the urgency of many environmental problems and the need to reorder national goals and priorities to deal with these problems, there is still no comprehensive national policy on environmental management. There are limited policies directed to some areas where specific problems are recognized to exist, but we do not have a considered statement of overall national goals and purposes.

As a result of this failure to formulate a comprehensive national policy, environmental decisionmaking largely continues to proceed as it has in the past. Policy is established by default and inaction. Environmental problems are only dealt with when they reach crisis proportions. Public desires and aspirations are seldom consulted. Important decisions concerning the use and the shape of man's future environment continue to be made in small but steady increments which perpetuate rather than avoid the recognized mistakes of previous decades.

Today it is clear that we cannot continue on this course. Our natural resources—our air, water, and land—are not unlimited.¹ We no longer have the margins for error that we once enjoyed. The ultimate issue posed by shortsighted, conflicting, and often selfish demands and pressures upon the finite resources of the earth are clear. As a nation, and as a world, we face these conditions:

A population which is doubling at increasingly shorter intervals;

Demands for resources which are growing at a far greater rate than population; and

A growing technological power which is far outstripping man's capacity to understand and ability to control its impact on the environment.

The committee believes that America's capacity as a nation to confront these conditions and deal more effectively with the growing list of environmental hazards and problems resulting from these conditions can be improved and broadened if the Congress clarifies the goals, concepts, and procedures which determine and guide the programs and the activities of Federal agencies. Moreover, this can be done with the reasonable prospect that State, local, and private action will also be favorably influenced.

The committee is aware, as are other committees of both Houses which handle environmental legislation, that it is extremely difficult in our increasingly complex Government to achieve coordinated responses among the numerous Federal agencies² (aside from private enterprise and State and local agencies) involved in the multiple uses of our Nation's natural resources unless there are established common approaches to determine what actions are necessary to advance the public interest in healthful and quality surroundings. To provide a basis for advancing the public interest, a congressional statement is required of the evolving national objectives of managing our physical surroundings, our land, air, water, open space, and other natural resources and environmental amenities.

In view of this situation, the committee considered, amended and reported S. 1075 to the floor of the Senate.

PURPOSE

The purpose of S. 1075, the National Environmental Policy Act of 1969, is to establish, by congressional action, a national policy to guide Federal activities which are involved with or related to the management of the environment or which have an impact on the quality of the environment.

Recent years have witnessed a growing public concern for the quality of the environment and the manner in which it is managed. The cause of this concern appears to be twofold: First, the evidence of environmental mismanagement is accumulating at an ever-increasing rate as a result of population growth, increased pressures on a finite resource base, and advancing technological developments which have enlarged man's capacity to effectuate environmental change. Second, the American people—as a result of growing affluence, more leisure time, and a recognition of the consequences of continuing many present environmental trends—are placing a much higher value on the quality of the environment and their surroundings than ever before.

The public's growing concern has figured prominently in many different areas of Federal activity. Most often it is seen in the form of citizen indignation and protest over the actions or, in some cases, the lack of action of Federal agencies. Examples of the rising public concern over the manner in which Federal policies and activities have contributed to environmental decay and degradation may be seen in the Santa Barbara oil well blowout; the current controversy over the lack of an assured water supply and the impact of a super-jet airport on the Everglades National Park; the proliferation of pesticides and other chemicals; the indiscriminate siting of steam fired powerplants and other units of heavy industry; the pollution of the Nation's rivers, bays, lakes, and estuaries; the loss of publicly owned seashores, open spaces, and other irreplaceable natural assets to industry, commercial users, and developers; rising levels of air pollution; federally sponsored or aided construction activities such as highways, airports, and other public works projects which proceed without reference to the desires and aspirations of local people.

S. 1075 is designed to deal with many of the basic causes of these increasingly troublesome and often critical problems of domestic policy. A primary purpose of the bill is to restore public confidence in the Federal Government's capacity to achieve important public purposes and objectives and at the same time to maintain and enhance the quality of the environment. It is the Committee's belief that S. 1075 will also provide a model and a demonstration to which State governments may look in their efforts to reorganize local institutions and to establish local policies conducive to sound environmental management. This objective is of great importance because many of the most serious environmental problems the Nation faces are within the scope and, often, within the exclusive jurisdiction of State action and State responsibility.

S. 1075 is also designed to deal with the long-range implications of many of the critical environmental problems which have caused great public concern in recent years. The challenge of environmental management, is, in essence, a challenge of modern man to himself. The principal threats to the environment and the Nation's life support system are those that man has himself induced in the pursuit of material wealth, greater productivity, and other important values. These threats—whether in the form of pollution, crowding, ugliness, or in some other form—were not achieved intentionally. They were the spinoff, the fallout, and the

unanticipated consequences which resulted from the pursuit of narrower, more immediate goals.

The purpose of S. 1075 is, therefore, to establish a national policy designed to cope with environmental crisis, present or impending. The measure is designed to supplement existing, but narrow and fractionated congressional declarations of environmental policy.

The "National Environmental Policy Act of 1969" would contribute to a more orderly, rational, and constructive Federal response to environmental decisionmaking in five major ways. These are briefly set out below:

1. Management of the environment is a matter of critical concern to all Americans. Virtually every agency of the Federal Government plays some role in determining how well the environment is managed. Yet, many of these agencies do not have a mandate, a body of law, or a set of policies to guide their actions which have an impact on the environment. In fact, the authorizing legislation of some agencies has been construed to prohibit the consideration of important environmental values.

Section 101 of S. 1075 rectifies this by providing a congressional declaration that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal planning and activities to the end that certain broad national goals in the management of the environment may be attained.

2. A statement of national policy for the environment—like other major policy declarations—is in large measure concerned with principle rather than detail; with an expression of broad national goals rather than narrow and specific procedures for implementation. But, if goals and principles are to be effective, they must be capable of being applied in action. S. 1075 thus incorporates certain "action-forcing" provisions and procedures which are designed to assure that all Federal agencies plan and work toward meeting the challenge of a better environment.

3. One of the major factors contributing to environmental abuse and deterioration is that actions—often actions having irreversible consequences—are undertaken without adequate consideration of, or knowledge about, their impact on the environment. Section 201 seeks to overcome this limitation by authorizing all agencies of the Federal Government, in conjunction with their existing programs and authorities, to conduct research, studies, and surveys related to ecological systems and the quality of the environment. This section also authorizes the agencies to make this information available to the public, to assist State and local government, and to utilize ecological information in the planning and development of resource-oriented projects.

Recognizing the leading role which the President has delegated to the Office of Science and Technology for the coordination of Federal activities in the area of environmental administration, the committee has adopted provisions designed to assist and strengthen this office. The committee also authorizes the President to designate one or more lead agencies to carry out a grant program, to maintain an inventory of development projects which make significant environmental modifications, to establish a data collection system, and to assist State and local governments.

4. Title III establishes an independent, high-level, three-member Board of Environmental Quality Advisers in the Executive Office of the President. The Board is patterned very closely after the Council of Economic Advisers which was established by the Full Employment Act of 1946.

The Board's function is to provide a continuing study and analysis of environmental trends and the factors which affect these

¹Footnotes at end of article.

trends, and to relate each area of study and analysis to the social, economic, health, and conservation goals of the Nation. The Board will provide an overview of how effectively the Nation is maintaining a quality environment for future and present generations. In addition, it will be uniquely equipped to serve an early warning function by identifying emerging environmental problems at an early date so that proper responses may be prepared before situations reach crisis proportions and before the costs of dealing with problems grow large.

The Board would also strengthen the Office of the President by providing advice, assistance, and staff support on the formulation of national policies and other measures to improve the quality of the environment. In addition, the Board would assist the President in the preparation of an annual environmental quality report.

5. Section 303 requires the President to submit to the Congress an annual environmental quality report on the current status and condition of the major natural, man-made, and altered environmental systems of the Nation. In addition, the report is to identify current and foreseeable trends in quality, management, and the utilization of these environmental systems and the effects of these trends on the social, economic, and other requirements of the Nation.

At present, there is no report available which summarizes and brings together in one convenient place an authoritative and periodic statement on the status of the environment. Instead, there are hundreds of reports which deal with some small aspects of environmental management. More often than not these are technical in nature and do not provide meaningful measures of how well the Nation is meeting environmental goals and objectives. The annual report required by S. 1075 would provide a baseline and a periodic objective statement of national progress in achieving a quality environment for present and future generations of Americans.

BACKGROUND

Legislative history

S. 1075, the National Environmental Policy Act of 1969, was introduced in the 91st Congress on February 18, 1969, by Senator Jackson. Hearings on this and two related bills introduced by Senators Nelson (S. 1752) and McGovern (S. 237) were held on April 16, 1969, before the full Committee on Interior and Insular Affairs.³ Following a staff study and consultations with the staff of the Office of Science and Technology and with representatives of a number of the Federal departments, the committee considered S. 1075 in executive session on June 18, 1969. Following the adoption of a number of committee amendments, the measure was ordered reported to the Senate on June 18, 1969. At the request of the Director of the Office of Science and Technology and representatives of the Bureau of the Budget, the committee voted, on July 8, 1969, to reconsider the measure for the purpose of considering additional amendments. The amendments were proposed by the Bureau of the Budget in a July 7, 1969, letter to the chairman of the committee. The proposed amendments to titles I and II of S. 1075 were adopted. Amendments proposed to title III by the Bureau of the Budget were adopted in part and rejected in part. Following the adoption of other amendments suggested by members of the committee, the measure was ordered reported to the Senate on July 8, 1969.

S. 1075, as introduced, was substantially the same measure as S. 2805 which was introduced in the 90th Congress on December 15, 1967, by Senators Jackson and Kuchel. The far-reaching objectives of S. 2805 and similar legislation introduced in the 90th

Congress by Members of both Houses were considered at a unique joint House-Senate colloquium convened by the chairmen of the Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics on July 17, 1968, to discuss a national policy for the environment.⁴

Many of the concepts and ideas incorporated in S. 1075 were drawn from ambitious measures introduced in previous Congresses. Of particular relevance were S. 2549, the Resources and Conservation Act, introduced by Senator Murray in 1959 and S. 2282 introduced by Senator Nelson in the 89th Congress. The Murray bill, endorsed by a distinguished group of Senators in the 86th and subsequently in the 87th Congress, called for the establishment of more efficient machinery in the President's Office to coordinate resource conservation on the basis of national goals. The Nelson bill included broad provisions to cope with inadequate use and application by Federal agencies of ecological knowledge and research methods for attaining better management of our physical environment. Extensive hearings were held on each of these and other environmental measures before the Senate Interior Committee.⁵

Other concepts and ideas incorporated into S. 1075 were drawn from the proceedings of the previously mentioned joint House-Senate colloquium, from technical reports, conferences and symposia, and from books and journals dealing with environmental problems.⁶

In addition, the committee has reviewed and drawn upon concepts and ideas incorporated into many measures introduced in this and previous Congresses related to various aspects of environmental management.⁷

Need for the measure

This committee has compiled a great deal of testimony demonstrating instances of shortcomings, problems, and even national crises arising in many respects from the inadequacies of the Nation's environmental management policies and practices. Similar evidence has been compiled by other congressional committees and is a recurrent topic in the news media and in popular and technical publications.

Extensive collections of commentary regarding specific examples of environmental problems along with commentary by recognized spokesmen and authorities in the field have been published by this committee in the transcripts of the joint House-Senate colloquium to discuss a national policy for the environment (90th Cong., second sess.), in the hearing on a national environmental policy (91st Cong., first sess.), and elsewhere.⁸ The latter document includes an appendix entitled "Bibliography on Environmental Issues," which lists numerous books, papers, articles, and other published material dealing with the critical problems of the environment.

It would be impracticable to attempt a summary of this voluminous data in this report. Drawing upon the testimony presented to this and other committees, however, the committee believes that the following basic propositions summarize the situation of contemporary America and the Federal Government regarding the management of the environment:

1. Population growth and increasing per capita material demands are placing unprecedented pressures upon a finite resource base.

2. Advancing scientific knowledge and technology have vastly enlarged man's ability to alter the physical environment.

3. The combination of the foregoing conditions presents a serious threat to the Nation's life support system. The pursuit of greater material wealth and increased productivity, the quest for scientific knowledge, and the requirements of worldwide responsi-

bilities have had unplanned and often unforeseen consequences in the form of resource depletion, pollution, ill conceived urbanization, and other aspects of environmental degradation.

4. The attainment of effective national environmental management requires the Nation's endorsement of a set of resource management values which are in the long-range public interest and which merit the support of all social institutions. The Federal role will involve in some measure nearly every Federal agency. Successful Federal leadership in environmental management must be based upon the best possible information and analyses concerning the status and trends of environmental conditions. Federal action must rest upon a clear statement of the values and goals which we seek; in short, a national environmental policy.

There is no general agreement as to how critical the Nation's present environmental situation has become. Some respected scholars insist that a number of crises already exist. Others maintain that there is yet time to prevent them. There is nearly unanimous agreement, however, that action is needed and that, at least in some instances, dangerous conditions exist.

The Senate Interior and Insular Affairs Committee has not concluded that the complex environmental problems we face are susceptible of easy solution. It is however, clear that the Congress cannot disavow its responsibility to establish basic policies and to exercise supervisory powers over the agencies it has created. The Senate Committee on the Judiciary stated this responsibility clearly:

"Policymaking is not a function that can be performed properly by a small group of appointed officials, no matter how able or well intentioned. Only in Congress, where the Members are directly answerable to the electorate, can competing political interests be adequately represented and properly accommodated."

In gathering testimony on various aspects of national environmental policy over the past decade, the Senate Interior Committee has received broad support and encouragement from diverse segments of American society—from the scientific community, the universities, business and labor, and from public affairs groups. The committee believes that it is necessary to move ahead to define the "environmental" desires of the American people in operational terms that the President, Government agencies at all levels, the courts, private enterprise, and the public can consider and act upon.

RELATIONSHIP OF S. 1075 TO EXISTING POLICIES AND INSTITUTIONS

Existing policies

Congress over the past decade has passed a procession of landmark conservation measures on behalf of recreation and wilderness, national recreational planning, national water planning and research, wilderness preservation, review of public land policies, establishment of a system of national trails and a system of national scenic rivers, air and water pollution control, noise abatement, preservation of endangered wildlife, urban planning for open space, oceanography, beautification of highways, protection of shorelines and estuaries, and other related areas. Many of these measures originated in the Senate Interior and Insular Affairs Committee.⁹ Others originated in other committees of both the Senate and House. All of them, in specific and specialized ways, constitute congressional mandates on various aspects of environmental policy. Taken together, these measures provide an impressive record of congressional action and concern.

Nevertheless, on the basis of recent hearings, seminars, colloquia, and staff studies conducted by the committee, it is clear that there is very real reason for concern for those areas in which no policies have been estab-

Footnotes at end of article.

lished or in which the conflicting operational policies of different agencies are frustrating and complicating the achievement of environmental quality objectives which are in the interest of all. Many older operating agencies of the Federal Government, for example, do not at present have a mandate within the body of their enabling laws to allow them to give adequate attention to environmental values. In other agencies, especially when the expenditure of funds is involved, an official's latitude to deviate from narrow policies or the "most economical alternative" to achieve an environmental goal may be strictly circumscribed by congressional authorizations which have overlooked existing or potential environmental problems or the limitations of agency procedures. There is also reason for serious concern over the activities of those agencies which do not feel they have sufficient authority to undertake needed research and action to enhance, preserve, and maintain the qualitative side of the environment in connection with development activities.

S. 1075, as reported by the committee, would provide all agencies and all Federal officials with a legislative mandate and a responsibility to consider the consequences of their actions on the environment. This would be true of the licensing functions of independent agencies as well as the ongoing activities of the regular Federal agencies.

In addition, by providing a statement of national environmental goals, policies, and procedures, S. 1075 would give renewed and vigorous emphasis to the importance of existing environmental programs and legislation.

The problem of providing for better Federal environmental management practices is not totally caused by the lack of a policy. As noted earlier, there are many specific and specialized legislative policies on some aspects of the environment. The present problem also involves the need to rationalize and better coordinate existing policies and to provide means by which they may be continuously reviewed to determine whether they meet the overall goal of a quality life in a quality environment for all Americans.

Titles II and III of S. 1075 provide coordinating and oversight measures which are designed to insure that a coordinated Federal response to the problems of environmental management are prepared.

Existing institutions

The Federal Government, at present, is not well structured for the administration of complex environmental issues or to offer meaningful alternatives to past methods of coping with environmental problems.¹⁰ Compensatory measures have been sought through interagency agreements and understandings which require joint consultation and planning in specified cases of natural resources administration.¹¹

While this represents an improvement in some areas of environmental administration and policymaking, the compensatory measures are more in the nature of palliatives than basic reforms, more in the nature of administrative statesmanship rather than basic policy determinations. In effect, they treat the symptoms rather than the basic problems.

Functions of oversight and assessment, insofar as they are presently fulfilled, are vested with a number of committees of the Congress and with the Bureau of the Budget. Budget's concern has proven to be more fiscal than policy oriented. The segmented committee structure of Congress, coupled with inadequate time and staff to survey the broad range of environmental quality problems, make it improbable that all of the committees of Congress will, or can be expected to provide a continuous and informed substitute for legislation through which a comprehensive environmental public policy can be developed and applied.¹²

The present administration has recognized that dealing with complex environmental questions requires the establishment of a focal point for the consideration of environmental values within the Federal Government. On June 3, 1969, President Nixon established by Executive Order 11472 an interagency Environmental Quality Council to be composed of six Cabinet officers and to be chaired by himself. The Executive order also established a Citizens' Advisory Committee on Environmental Quality, revoked a number of prior Executive orders, and delegated certain staff functions to the Director of the Office of Science and Technology.

During the April 16 hearings on S. 1075, members of the Committee expressed approval of the announcement by the Secretary of the Interior and the President's science adviser of the President's intent to establish this interagency Council on the environment. There was general agreement that the Council could be effective in dealing with environmental problems which were of concern to more than one Department of the Federal Government and which required "action."

Many members of the Committee did, however, question whether an interagency council alone could provide the objective and impartial advice and adversary support the President needs in dealing with environmental problems.

Senator Jackson, in a dialog with Dr. DuBridge, noted that—" * * * the advice, with all due respect, that the President would receive from the departments will be advice that will not be adverse to them. It will be compromised advice. This has been the history of the agencies. It is hard for the President to get objective advice. This is why the Bureau of the Budget plays such an important role. This is why your office [Office of Science and Technology] plays an important role. You have science in every department of the Government, and the President really needs to be armed with information with which he can effectively deal with the Cabinet departments. He needs to be armed with impartial advice, even advice of an adversary nature which will place the options for decision before the President.

"What I am concerned about, you see, is whether or not the President is going to be presented with a series of options that stem from an impartial source. This is casting no reflection on any department, but every Cabinet officer gets pressures right from the bottom on up."

Concern was also expressed by other members of the Committee over whether the President and the Cabinet officers involved would have the time and energy to provide the continuity of effort required. Concern was voiced over the level of staff support which the Office of Science and Technology would be able to make available to assist the President's Council.

Based upon a review of the strengths and weaknesses of both the President's Council and an independent board of environmental advisers as proposed in S. 1075, the Committee believes that both are needed. Their functions and activities as expressed in the Executive order and in title III of S. 1075 are not in conflict. They are complementary bodies: one action-oriented and composed of those Cabinet officers chiefly concerned with environmental matters, and the other providing objective and impartial advice as well as a long-range overview and problem identification function.

SUMMARY

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelated aspects of man's dependence upon his environment. Most Americans now

understand, far better than our forebears could the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has in many areas overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now costing us dearly, not merely in opportunities foregone, in impairment of health, and in discomfort and inconvenience, but also in a demand upon tax dollars upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deterioration will run. The cost of remedial action and of getting on to a sound basis for the future will never again be less than it is today.¹³

Natural beauty, increased recreational opportunity, urban esthetics and other amenities would be important byproducts of a national environmental policy. They are worthy and important public objectives in their own right. But the compelling reasons for a national policy are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life-sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaption to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers, and in one form or another we must now pay directly the costs of maintaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of a comprehensive environmental quality program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner, we may find ourselves confronted, even in this generation, with an environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

FOOTNOTES

¹⁰ An excellent up-to-date assessment of our present resource posture has been prepared by the Committee on Resources and Man, National Academy of Sciences-National Research Council. The summary of findings and recommendations is presented as appendix 1 of the hearings before the Senate Interior Committee, "National Environmental Policy," Apr. 16, 1969.

¹¹ A recent analysis conducted by the staff of the Senate Interior Committee showed that environmental programs are presently administered by 63 Federal agencies located within 10 of the 13 departments as well as 16 independent agencies of the executive branch.

¹² National environmental policy, hearings held before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong., first sess., on S. 1075, S. 1752, and S. 237, Apr. 16, 1969. S. 1752, as introduced by Senator Nelson, would create a five-member Council on Environmental Quality in the Office of the President. This Council would be responsible for assisting the President in preparing an annual environmental quality report which would be transmitted to Congress. The report would be reviewed by a Joint Committee on Environmental Quality. The measure would also authorize the Secretary of the Interior to conduct studies of the natural environment, evaluate and disseminate such information, and consult with and provide tech-

nical assistance to departments and agencies of the Government.

S. 237, as introduced by Senator McGovern, would require that the President transmit to the Congress an annual report on the state of the environment. The measure would also authorize the creation of a Council of Advisers on Resources, Conservation, and the Environment which would be in the Executive Office of the President. The three-member Council would assist the President in the preparation of the annual report and in developing and recommending national policies to maintain and improve the environment. For the purpose of consideration of the annual report and plan, this bill would establish in the Senate and the House, special committees to be known as the Select Committees on Resources, Conservation, and Environment.

⁴ The proceedings were published under the title: "Joint House-Senate Colloquium To Discuss a National Policy for the Environment," hearing before the Committee on Interior and Insular Affairs, U.S. Senate, and the Committee on Science and Astronautics, U.S. House of Representatives, 90th Cong., 2d sess., July 17, 1968.

Following the colloquium, a "Congressional White Paper" was prepared at the request of Cochairman Henry M. Jackson and George Miller by the Legislative Reference Service, Library of Congress. This document, issued as a joint committee print by the Senate Interior Committee and House Science and Astronautics Committee and distributed to the entire Congress in October 1968, summarized the key points raised in the dialog between Members of the Congress and the colloquium participants which included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurance Rockefeller, and Dean Don K. Price of Harvard.

A special report to the Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use and was printed as a committee print on July 11, 1968. The report was prepared by Dr. Lynton K. Caldwell of Indiana University and William J. Van Ness, special counsel to the committee. The report was used as a background document for the colloquium. It raises and discusses in detail many of the issues and questions implicit in establishing a national environmental policy.

⁵ Proposed Resources and Conservation Act of 1960, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 86th Cong., second sess. on S. 2549, Jan. 25, 26, 28, and 29, 1960. Ecological Research and Surveys, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 89th Cong., second sess., April 27, 1966, on S. 2282.

⁶ For a detailed listing of these documents see app. A, entitled "A Documentation on Environmental Problems, p. 25, in A National Policy for the Environment, committee print, Senate Interior and Insular Affairs Committee, July 11, 1968; see also the "Bibliography on Environmental Issues," pp. 192-204 in National Environmental Policy, hearing before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong., on S. 1075, S. 237, and S. 1752, Apr. 16, 1969.

⁷ In the closing days of the 90th Cong., the Legislative Reference Service tabulated over 100 bills which were directly concerned with environmental issues, covering a broad area of interest—cleaning up the Nation's rivers and better approaches to smog control, improving the use of open space and prevention of disorderly encroachment by superhighways, factories and other developments, improved protection of areas of high fertility, wiser application of pesticides, whose residues affect both man and wildlife, and the control of urban sprawl, unsightly junkyards, billboards, and power facilities that lower the amenities of landscape.

In the present Congress, an initial tabulation indicates that over 40 bills have been

introduced which are concerned either with a national policy for the environment or the establishment of machinery to study the overall problems of the human environment. Of the 16 standing committees of the Senate, eight have broad jurisdiction of this type of legislation. Of the 21 House standing committees, 11 are similarly involved. See "A National Policy for the Environment, app. B, p. 29, committee print of the Senate Interior and Insular Affairs Committee, July 11, 1968; "Congressional White Paper on A National Policy for the Environment," app. p. 17, Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics, October 1968; and Legislative Reference Service Multith, TP 450, SP 170 entitled "Environmental Quality: Selected Bills and Resolutions," June 20, 1969.

⁸ See, for example, "Selected Excerpts on Environmental Management Policy," in the Congressional Record, Feb. 6, 1968, by Senator Jackson, and the committee publications cited in previous footnotes.

⁹ See, for example, "A Brief Presentation of the Committee's History and Jurisdiction, and A Summary of its Accomplishments During the 90th Congress," committee print, Committee on Interior and Insular Affairs, U.S. Senate, 90th Cong., 2d Sess.

See, also the existing legislation which affects coordination of Federal, air quality, water quality, solid waste disposal, and related public works projects cited in S. 2391, introduced by Senator Muskie and others on June 12, 1969.

¹⁰ This deficiency has been thoroughly discussed in two documents of the National Academy of Sciences: Paul Weiss, "Renewable Resources: A Report to the Committee on Natural Resources" (NAS-NRC Publ. No. 100A, 1962; "Resources and Man," NAS-NRC. (In press.) Also see Lynton K. Caldwell, "Administrative Possibilities for Environmental Control," in The Future Environments of North America (Natural History Press, 1966), and the hearings on S. 1075.

¹¹ The inadequacies of such compensatory measures are discussed in the following: Stephen K. Bailey, "Managing the Federal Government," in Agenda for the Nation (Brookings Institution, 1968).

¹² This fundamental issue was fully discussed in the "Congressional White Paper on a National Policy for the Environment," op. cit.

¹³ For a discussion of the economic and social costs of continuing past environmental management practices see page 5, "A National Policy for the Environment," Committee Print, Senate Interior and Insular Affairs Committee, July 11, 1968.

The PRESIDING OFFICER. The question is on agreeing to the committee amendment in the nature of a substitute.

The committee amendment was agreed to.

The PRESIDING OFFICER. The bill is open to further amendment. If there be no further amendment to be proposed, the question is on the engrossment and third reading of the bill.

The bill was ordered to be engrossed for a third reading, was read the third time, and passed.

The title was amended so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."

Mr. JACKSON. Mr. President, I move to reconsider the vote by which the bill was passed.

Mr. ALLOTT. Mr. President, I move to lay that motion on the table.

The motion to lay on the table was agreed to.

Mr. JACKSON. Mr. President, I express my thanks to the distinguished senior Senator from Florida for making time available.

Mr. HOLLAND. Mr. President, I thank my friend, the Senator from Washington. I was happy to yield, and I support the measure which he has just carried through to passage.

SENATE JOINT RESOLUTION 133— INTRODUCTION OF A JOINT RESOLUTION REDESIGNATING CAPE KENNEDY AS CAPE CANAVERAL

Mr. HOLLAND. Mr. President, the tragic death of our late, beloved President John F. Kennedy, by an assassin's bullet, left this Nation and other free nations throughout the world stunned with grief. Along with millions of others, I shared the grief on that sad occasion.

Understandably, during our period of mourning some things were done without our properly thinking through the actions taken. Upon reflection and further study, we find that the action taken by the Board of Geographic Names of the Department of the Interior, upon the request of President Johnson, redesignating Cape Canaveral in Florida as "Cape Kennedy," was ill-advised. However, the President's Executive Order 11129, dated November 29, 1963, designating the facilities of the National Aeronautics and Space Administration and the Department of Defense located on Cape Canaveral as the John F. Kennedy Space Center, was most fitting.

Mr. President, the people of Florida are in complete accord with the action taken by President Johnson in designating the NASA and Department of Defense facilities on Cape Canaveral the John F. Kennedy Space Center. It is a proper and lasting memorial to a dearly loved President whose every effort was to aid his fellow man, his country, and the people of the world to a better and more peaceful way of life and whose inspired leadership did so much to advance our exploration of outer space. Our Florida people are proud to have on our soil the John F. Kennedy Space Center.

However, Mr. President, I do not believe that John F. Kennedy, who was a historian of note and who cherished the heritage of this Nation, would have wanted action taken that would in any way cause us to lose any of our historical background attained throughout the years. The name Cape Canaveral is one of the oldest known and most continuously used place names on the American Atlantic coast. The discovery of this landmark is accredited to Ponce de Leon and its name is recorded on many of the earliest known Spanish and French maps and charts before even Cape Cod, Cape Hatteras, and Jamestown bore their proud names. It was in use on maps and charts of world navigators from the days of the discovery and exploration of Florida until 1963, well over 400 years.

Therefore, Mr. President, I am today submitting a resolution for myself and

my distinguished colleague, Senator GURNEY, which would redesignate Cape Kennedy as Cape Canaveral. I emphasize that this is a joint, bipartisan, and even nonpartisan resolution offered jointly by the two Senators from Florida. This resolution also provides that the facilities of NASA and the Department of Defense referred to in Presidential Executive Order 11129 dated November 29, 1963, shall continue to be known permanently as the John F. Kennedy Space Center.

I might add that I have personally discussed the introduction of this resolution with the senior Senator from Massachusetts so that he would be apprised of the fact that the Florida State Legislature recently passed a resolution requesting that Cape Kennedy be officially redesignated Cape Canaveral and would understand the attitude of the people of the State of Florida regarding the proposal as reflected in numerous newspaper editorials throughout the State, and by the resolution of the Florida State Historical Society and by numerous other historical and civic bodies.

I ask that this resolution be received and appropriately referred to the Interior and Insular Affairs Committee.

The PRESIDING OFFICER (Mr. BYRD of Virginia in the chair). The joint resolution will be received and appropriately referred.

The joint resolution (S.J. Res. 133), to redesignate the area in the State of Florida known as Cape Kennedy as Cape Canaveral, introduced by Mr. HOLLAND (for himself and Mr. GURNEY), was received, read twice by its title, and referred to the Committee on Interior and Insular Affairs (by unanimous consent).

Mr. HOLLAND. Mr. President, I now yield to my distinguished colleague, the Senator from Florida (Mr. GURNEY).

Mr. GURNEY. Mr. President, I am most happy to cosponsor this resolution with my distinguished colleague, the senior Senator from Florida.

I reiterate what he has said, that this represents the overwhelming sentiment of the people in the area of Cape Canaveral, Cape Kennedy, and the Kennedy Space Center, as well as other parts of Florida. I perhaps know the area better than any other Member of Congress, because I represent it for 6 years in the House of Representatives, before I began my service in the Senate. I know personally a great many of the people who work in the space center and who work outside of the space center.

I can attest to the fact that it is the overwhelming sentiment of the people of the area that the name be changed back to its former name, Cape Canaveral, from its present name.

As the senior Senator from Florida has pointed out, this sentiment is overwhelmingly supported not only by the people of the area but also by resolutions of the Florida Legislature, bipartisan and nonpartisan, joined by Democrats and Republicans. It also represents the wishes of the congressional delegation from Florida.

Actually, I think the change of the name of the geographical point, Cape Canaveral, was probably a mistake. I did

quite a bit of research in this matter some years ago, in 1963, when the name was changed. The Executive order of the President, which was referred to by Senator HOLLAND, makes no mention, of course, of Cape Canaveral. It simply refers to the Air Force station and to the NASA installation and designates them as the Kennedy Space Center—something with which the people of Florida agree; and we are very proud that it bears the name of the late President Kennedy.

Actually, however, further research that I did on this matter 5 years ago indicated to my satisfaction that the name change accomplished by the Board of Geographic Names, which is the Federal agency charged with this responsibility, was really a mistake.

Without going into the details of the facts and circumstances, there were no hearings at the time as required by law. As a matter of fact, there was not even a meeting of the full Board. How it came about, I do not know. But I do not think the intention at that time was really to change the name of the geographical area.

I might further point out—and I think this is really the meat of the situation—the Senator has touched upon it, and I will emphasize it—that the historical significance of the name "Cape Canaveral" goes back well over 400 years. As a matter of fact, the earliest date is 1530, so the Library of Congress has informed me, and the name then appeared upon an early map of that date. It appeared on other maps, also. It may well be the oldest geographical point in the United States. It certainly is one of the earliest in the United States and the Western Hemisphere, for that matter.

The people who desire the name change really want to preserve the historical significance of the name "Cape Canaveral." That is the reason for the introduction of the resolution, and that certainly is the reason for the unanimous support behind it. Everybody wants the name of the space installation to remain as it is today—the Kennedy Space Center. But the overwhelming sentiment is that the geographical point now known as Cape Kennedy be changed back to Cape Canaveral.

I would hope that the Senate would early consider and speedily and favorably pass upon this resolution.

Mr. HOLLAND. Mr. President, I thank my distinguished colleague for his able and very fine remarks.

I yield the floor.

ORDER OF BUSINESS

The PRESIDING OFFICER. Under the previous order, the Senate will proceed to the transaction of routine morning business, with statements therein limited to 3 minutes.

THE ABM SYSTEM

Mr. PEARSON. Mr. President, the point of concentration in the pending debate is upon the ABM and its deployment, yet the issue is wider. One cannot

deal with the question of the ABM in isolation, but of necessity must consider it in its relationship to our strategic force levels and its companion and supplemental systems. For example, it is impossible to consider the ABM unless at the same time we contemplate the implications of MIRV's.

Much has been said about the action-reaction effect of the nuclear arms race. Indeed, none of our actions and none of our systems are unrelated to the behavior of other nuclear powers; nor are they unrelated to our military or diplomatic responsibilities around the globe. Mr. President, there are hopes within this Chamber that some compromise on the present issue can be reached. The distinguished Senator from Kentucky (Mr. COOPER) and the able Senator from Michigan (Mr. HART) have proposed a sound alternative.

Yet, let us project our thoughts beyond the debate today. It seems essential that we consider the forthcoming arms limitation talks with the Soviet Union and their prospects. All approach these negotiations with profound hope; but good intentions are nothing more than good dreams unless they are accompanied by action.

How can we create the best conditions and best attitude to commence these talks?

I would suggest the Senate proceed with the military procurement bill now before us but delay or set aside action upon the ABM system. I would suggest that the administration announce that we would cease all testing of the MIRV system. Indeed it might be advisable to proclaim that we will cease all production of strategic forces, continuing only on those essential for the war in Vietnam, and that these things would be done upon the condition that the Soviet Union take reciprocal action. This would be a moratorium in effect upon strategic weapons development. It would allow us to enter negotiations under what I deem to be the best circumstances. We could begin these talks under conditions superior to those in Paris, where negotiations must labor under "fight and talk" conditions. Moreover, Mr. President, this is a position that would show our good faith, our good will, test the good faith of the Soviet Union, and in fact put us in an aggressive position in the fight for peace. It would represent a posture of putting us in a strong affirmative position as we enter these negotiations.

Mr. President, this proposal has been presented, in an indirect manner, to the Executive. I am assured it will be seriously received and considered. Yet, I emphasize that it bears no mark of approval by the President or by his administration.

Mr. MANSFIELD. Mr. President, will the Senator yield?

Mr. PEARSON. I yield to the distinguished majority leader.

Mr. MANSFIELD. Mr. President, I commend the distinguished senior Senator from Kansas for his remarks on the ABM and the suggestions he has made.

As always, the Senator has come to the point. He has made a proposal which in my opinion has a great deal of merit.

July 11, 1969

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HOUSE

1. ENVIRONMENT. The Merchant Marine and Fisheries Committee reported with amendment H. R. 12549, to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality (H. Rept. 91-378). p. H5900
2. SCHOOL LUNCH. The Education and Labor Committee reported without amendment H. R. 11651, to amend the National School Lunch Act, as amended, to provide funds and authorities to the Department of Agriculture for the purpose of providing free or reduced-price meals to needy children not now being reached (H. Rept. 91-379). p. H5900
3. SAFETY. A subcommittee of the Interstate and Foreign Commerce Committee approved for full committee action H. R. 7621, Child Protection Act of 1969. p. D624
4. FARM PRICES. Reps. Kyl and Poage defended higher meat prices as a natural consequence of consumer demand interacting with a fixed, limited supply of cattle available for slaughter. pp. H5874, H5885-7
5. SUBSIDY PAYMENTS. Rep. Findley inserted his telegram to Secretary Hardin in which he stated, "Until disagreements between the House and Senate versions of the money bill are resolved, it would therefore seem illegal to spend funds during fiscal 1970 to formulate these programs unless subject to the \$20,000 limit." p. H5888
6. CIGARETTE LABELING. Received from Federal Trade Commission a report concerning the effectiveness of cigarette labeling, current practices and methods of cigarette advertising and promotion, and recommendations for legislation which are deemed appropriate, pursuant to the provisions of section 5(d) (2) of the Federal Cigarette Labeling and Advertising Act. p. H5899

SENATE

7. EXPORTS. The Banking and Currency Committee ordered favorably reported an original bill entitle "Export Expansion and Regulation Act of 1969." p. D621
8. TAXATION. Several Senators discussed the tax surcharge extension (pp. S7971-2, S7974-84), Sen. Metcalf submitted an amendment to limit deductions attributable to farming, and Sen. Sparkman submitted an amendment which would provide that the tax credit would be continued for small firms, individual businesses, and farmers up to a level of \$150,000 (pp. S8007-8).

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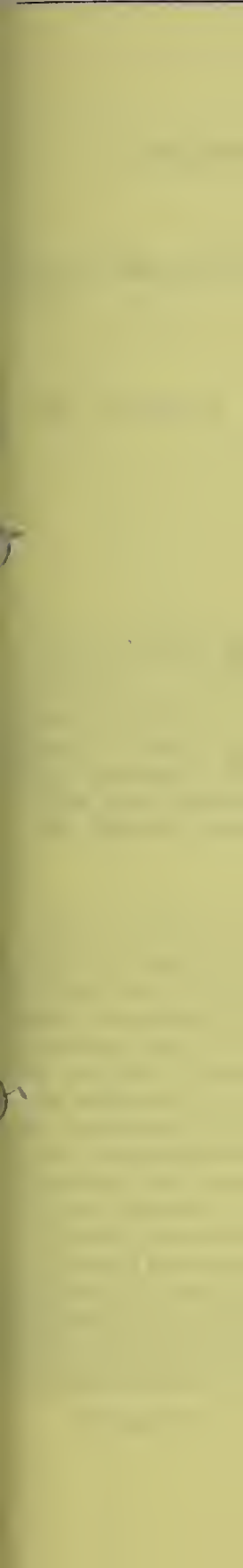
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HIGHLIGHTS: House committees reported school lunch bill and bill to establish Council on Environmental Quality. Sen. Metcalf submitted amendments to limit tax deductions attributable to farming. Rep. Findley questioned formulation of programs while appropriations are unresolved.



COUNCIL ON ENVIRONMENTAL QUALITY

JULY 11, 1969.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. GARMATZ, from the Committee on Merchant Marine and Fisheries, submitted the following

REPORT

[To accompany H.R. 12549]

The Committee on Merchant Marine and Fisheries, to whom was referred the bill (H.R. 12549), to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

The amendment is as follows:

On page 5, line 14, delete "of" and insert in lieu thereof "on".

PURPOSE OF THE BILL

The purpose of the bill, as hereby reported, is to create a Council on Environmental Quality with a broad and independent overview of current and long-term trends in the quality of our national environment, to advise the President, and through him the Congress and the American people on steps which may and should be taken to improve the quality of that environment.

In achieving the purpose, the bill would require the transmission to the Congress by the President of an annual environmental quality report on the status of various aspects of the American environment, as well as on the foreseeable trends that may affect that status, and on their impact on other national requirements.

The bill also would require the five-member Council to maintain a continuing review of Federal policies and activities with environmental implications and to conduct such studies as may be necessary for it to carry out its statutory mandate. The results of this activity would be summarized in an annual report to the President as a means of augmenting and supplementing his report to the Congress.

LEGISLATIVE BACKGROUND

The concept of an independent Advisory Council to the President on environmental matters is not new. It was the principal recommendation of a task force report to the Secretary of Health, Education, and Welfare in June 1967 entitled "A Strategy for a Livable Environment". Bills to accomplish this purpose were introduced in the last Congress by Congressman Dingell and by other Members of the House of Representatives, although no action was taken on any of these. On February 17, 1969, Congressman Dingell introduced H.R. 6750 in the 91st Congress.

Subsequent to the introduction of H.R. 6750 by Congressman Dingell, identical bills were introduced by Congressmen Tunney, Ottinger, Adams, Price of Illinois, Sikes, Sisk, Farbstein, Diggs, Fulton of Tennessee, Gray, Karth, Blatnik, Conte, Cohelan, Fascell, and Congresswoman Griffiths. A similar bill was introduced by Congressman Nedzi.

The Subcommittee on Fisheries and Wildlife Conservation of the House Committee on Merchant Marine and Fisheries held hearings on the legislation on May 7 and 26, and on June 13, 20, 23, 26, and 27, 1969. At the conclusion of the hearings, the Subcommittee on Fisheries and Wildlife Conservation unanimously reported to the full committee a clean bill, H.R. 12549, which is in essence H.R. 6750, with amendments. H.R. 12549 was introduced by Congressman Dingell and coauthored by Congressmen Lennon, Pelly, Downing, Keith, Karth, Dellenback, Rogers of Florida, Pollock, Hanna, Goodling, Leggett, McCloskey, Annunzio, Frey, and Biaggi, all of whom are members of the subcommittee.

Your committee was impressed by the wide range of witnesses testifying at the hearings in support of the legislation. In the main, all witnesses were in favor of the legislation. In fact, it is worthy to note that the hearings developed no substantive opposition on the part of the public to the legislation, and that the slight resistance on the part of witnesses for the departments stemmed from a feeling that the Council might in some way conflict with the interdepartmental Council on Environmental Quality established by Executive order of the President on May 29 of this year. It should also be noted that while the departments did not recommend enactment of the legislation, neither did they recommend against it. Witnesses from several agencies spoke highly of the potential of the Council contemplated by the legislation as complementary to the excellent steps already taken by the President to achieve consistent and coherent environmental policy within the executive agencies through the interdepartmental Council. The only opposition to the legislation came from the Office of Science and Technology, which was based on the premise that the Council established by Executive order would accomplish the same purpose as the Council to be established by the legislation.

Briefly summarized, the Departments of Transportation and the Interior were of the opinion that should the Congress feel that establishments of a separate environmental advisory body in the Executive Office of the President along the lines contemplated by the legislation is desirable to assist the efforts of the President's Council, they would not object to such action. The Department of Health, Education, and

Welfare stated that if the legislation were enacted into law, it stood ready to cooperate to the fullest in carrying out its praiseworthy purposes. The Department of Commerce and the National Council on Marine Resources and Engineering Development stated that the committee may want to consider the need for the legislation since the President only recently created a Cabinet-level Council concerned with environmental quality. The Department of Agriculture and the National Science Foundation were in full accord with the objectives of the legislation but did not recommend its enactment because of the recently created Cabinet-level Council. The Department of Defense deferred to the views of the Executive Office of the President and no reports were received from the Departments of Labor and Housing and Urban Development. As previously explained, the Office of Science and Technology filed the only opposing report on the legislation.

After giving careful consideration to the evidence presented at the hearings and the departmental reports, your committee unanimously reported H.R. 12549.

BACKGROUND AND NEED FOR THE LEGISLATION

By land, sea, and air, the enemies of man's survival relentlessly press their attack. The most dangerous of all these enemies is man's own undirected technology. The radioactive poisons from nuclear tests, the runoff into rivers of nitrogen fertilizers, the smog from automobiles, the pesticides in the food chains, and the destruction of topsoil by strip mining are examples of the failure to foresee and control the untoward consequences of modern technology.

Thus spoke the New York Times in an editorial on May 3 of this year. The editorial, which endorsed the type of legislation embodied in H.R. 12549, may understate the complexity and urgency of the challenge. The problem is deep, and it touches on practically every aspect of everyday life: economic, scientific, technological, legal, and even interpersonal. It is a problem to which Presidents have addressed themselves with increasing concern in recent years, and it is a problem which we can no longer afford to treat as of secondary importance.

An independent review of the interrelated problems associated with environmental quality is of critical importance if we are to reverse what seems to be a clear and intensifying trend toward environmental degradation. The Federal Government has spent vast sums of money on aspects of the problem and will certainly increase its efforts in the future—and yet there is still no independent source of review of the total environmental situation, nor is there in existence any agency to provide the President and the Congress with an estimation of the priorities which should be assigned to different aspects of the problem.

Your committee does not believe that a useful purpose would be served by a recitation of the many environmental problems which confront us today. It is a simple fact of life that policies of agencies of the Federal Government may and do conflict: it is equally true that there are occasions where, without the benefit of conflicting policies, these Government agencies may and do adopt courses that appear to conflict with the general public interest. Additionally, there is a real

need to involve State and local planning and action agencies, whose activities play a major part on the overall environmental problem, in the decisionmaking process.

There may be controversy over how close to the brink we stand, but there is none that we are in serious trouble. Your committee believes that the Council which would be established by H.R. 12549 would stand in good position to afford the Nation with expert insight into the degree and seriousness of the problem, and into ways in which we may take positive steps to improve the situation.

The extensive hearings on this legislation were well attended, and careful and detailed testimony was received by many public witnesses. One full day of hearings was held in Ann Arbor, Mich., on June 13, where a local and well-informed community vigorously endorsed the principles of this legislation. A number of nationally and internationally known conservationists and conservation organizations testified in support of the bill, as did a former Cabinet officer, Mr. Stewart L. Udall.

Twenty members of the recently created Board of Advisors to the Ad Hoc Committee on the Environment also appeared as witnesses before the committee. These ranged from scientists to economists, from industrialists to educators; all spoke highly of the purposes of this legislation and of the need for the type of Council that it would create.

Perhaps the most significant aspect of these extended hearings on the legislation was the degree of almost total unanimity in the community that such a Council was, if anything, long overdue.

Departmental witnesses described in some detail the recent Executive Order No. 11472, dated May 29, which created the interdepartmental Environmental Quality Council. This body consists of the Secretaries of Interior, Agriculture, Health, Education, and Welfare, Transportation, Housing and Urban Development and Commerce, together with the Vice President and President, as Chairman. The Executive Secretary of the Council is the President's science adviser, and staffing for the Council is provided through the Office of Science and Technology. The science adviser, Dr. Lee A. DuBridge, testified that he hoped to have a staff of six professionals and an equal number of supporting clerical staff assigned to that Council, and that eight other members of the Office of Science and Technology staff with functions closely related to environmental matters would assist him in his duties as Executive Secretary.

Practically all of the witnesses, both public and private, appearing before the committee expressed opinions that the Council which would be established by the legislation will not conflict with the functions of the interdepartmental council, and in fact could well serve effectively to increase the resources brought to bear on the complex and difficult environmental problems.

The two bodies would perform different tasks. As Dr. DuBridge stated in his testimony at the subcommittee hearings:

Certainly there are two functions. The Cabinet-level can do one kind of thing, implement activities and directives of the President as decided upon within the Council meeting and directed by the President. But of course, the Cabinet cannot do the long-range planning, cannot take the deep

expert look at the problems as they emerge, cannot evolve suggestions for exact policies and actions to be taken. They can take action and can discuss it, but it is absolutely essential that there be an expert group of advisers to the President that will advise him as to what action should be brought up to the Council, who will advise the President on the nature of the problems and where responsibilities lie or are split, do all of the things that you say this committee (sic) should do.

There are two very different functions; a Cabinet-level action committee and a staff or advisory group that is assisting the Council and the President and informing the Congress and the public. * * *

Essentially the difference of opinion between Dr. DuBridge and the rest of the witnesses on the legislation was the question of whether or not the science adviser, already burdened by the many duties and offices assigned to him, and unable at best to spend more than 25 percent of his time on environmental areas, would be physically able to devote adequate time and resources to the challenging problems that would inevitably arise.

Dr. David M. Gates, director of the Missouri Botanical Gardens and Chairman of the Board of Advisors to the Ad Hoc Committee on the Environment, educated as a physicist and currently teaching botany at Washington University in St. Louis, had this to say at the hearings on the complicated problems that the Council would have to deal with:

The complexity of the earth's ecosystem and its component parts of individual ecosystems makes understanding it and the management of it a massive challenge. Although we are harassed by ecological disasters such as the Santa Barbara oil slick, the mud slides, the Rhine River fish kills, and other examples, we have not yet come to grips with the complexity of the entire earth ecosystem.

Is the climate changing in an unnatural manner? Is there likely to be an oxygen shortage? Is population growth a part of some biological law which is incompatible with human dignity and desire? Can we feed the population of the world in the year 2000 or 2100 or 2200?

How much production of inorganic products can we produce without fouling the global system?

It is now evident that it is very unlikely that we can manage to produce a total quality to live for very many people much better than it is today. It is not unlikely that our generation or the next one or perhaps the one after will have reached the pinnacle of quality and after that it will be a downhill slide. There is a finite amount of energy to be consumed. There are a finite number of resources.

It is primarily a matter of how fast or how long one wishes to live at certain quality. One can live high and short or slow and long. Civilization cannot do both.

It is a question of what quality—for how many—for how long? Presumably an environmental quality council will help to assure certain goals. There are two types of issues. There

are the brushfire crises: the Santa Barbaras, the Rhine Rivers, the Great Lakes; and then there are the long-term methodical concerns about the environment.

The latter is by far the most difficult. It is the least spectacular, yet by far the most significant.

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Today we are manipulating an extremely complex system: The ecosystems of the earth, the units of the landscape, and we do not know the consequences of our actions until it is too late. We need to study ecosystems in advance and work out the strategies of living with the landscape.

Given this complexity, and the fact that the Cabinet-level Council members themselves cannot conceivably devote a major proportion of their attention to these problems in the depth required, it is the feeling of your committee that the staff work required to focus accurately on the issues involved will be extensive—far greater than the resources which the interdepartmental council and its six staff members can bring to bear.

The problems, in the view of your committee, are of several magnitudes larger than those which can be adequately dealt with by this interdepartmental organization. In addition, they are problems which will require full-time expertise and attention—expertise and attention which ought not to be devoted to other problems, however meritorious and importunate they may be. The Council proposed in H.R. 12549 appears to your committee to be best adapted to this type of intensive and extensive treatment.

Clearly, the members of the Council should be entirely independent of any other Federal office or employment just as they should be entirely divorced from other commercial and industrial ties and other financial commitments.

Other than the establishment of a statutory Council, the topic occupying the greatest attention of your committee was that of the standards to be applied in the selection of the Council members. While the ultimate decision on this question lies properly in the hands of the President, your committee concluded, after hearing extensive testimony on the subject, that the Council members should be chosen not as representatives of various groups concerned with the environment, but as generalists; informed on the basic nature of the problems and their interrelationships, and willing to consider new ways of attacking them. There appears to be little question that many of the most qualified specialists on aspects of environmental quality—biologists, chemists, physicists, geographers, demographers, engineers, economists, and such—would be unavailable and perhaps even unwilling to serve as full-time members of the Council. This may be inevitable; and yet it then becomes of critical importance to be certain that the advice of these men and women would be available to the Council, for use when needed. This implies the development of advisory and research task forces, and also requires that the communications function of the Council be raised to a position of high importance. It will therefore be necessary that several members of the Council be trained and competent administrators, to assure that the

flow of information in both directions is not impeded by artificial and unnecessary barriers.

Securing competent, qualified, and equally importantly, dedicated Council members and staff personnel appears to your committee to be a critical task confronting the President following enactment of this legislation. Such men and women could be found, but they are not easy to come by. This, of course, pushes budgetary considerations into positions of prominence, but it is your committee's feeling that money devoted to this end would indeed be money well spent.

The testimony at the hearing also stressed the importance of the international aspects of the environmental problem. It is an unfortunate fact that many and perhaps most forms of environmental pollution cross international boundaries as easily as they cross State lines. Contamination of the oceans, with insufficient attention paid to its long-term consequences, appears to be a major problem, to which far too little attention has been spent in the past. The international aspects are clearly a major part of the questions which the Council would have to confront, and your committee feels confident that these would receive early attention by the Council.

It would of course be necessary that the Council maintain close ties with all levels of the executive departments. The President would undoubtedly wish to consider the desirability of having the Chairman of the Council sit as an ex officio member of the interdepartmental council. Another proposal which your committee feels merits favorable consideration is that of attaching employees of the Council—perhaps on a rotating basis to insure a fresh approach—to executive departments and agencies to act as environmental auditors, much in the fashion that accounting firms attach employees to large corporations for whose financial affairs they are responsible. These auditors could well be of significant value to the agencies to which they would be attached, enabling them to develop meaningful environmental policies at the lower decisionmaking levels of government, before the policy choices to be made by their chief executive officers have become so circumscribed by internal momentum that the complete range of alternatives is no longer available to them. This phenomenon, sometimes termed "bureaucratic inertia," is troublesome, and has proved a source of major frustration to many previous administrations; the program, planning, and budgeting procedures which have been developed in recent years as a means of coping with this problem suggest themselves as an area in which environmental inputs might be highly useful to and welcomed by policymaking officials lacking specific expertise on these topics.

These auditors, operating in the field and in Washington, should be familiar with and in a position to recommend alterations in agency guidelines; they should also be instructed to review major environmental problems falling within the jurisdiction of the agencies to which they are attached, with particular attention, where appropriate, to interagency conflicts of policy in these areas.

Although the testimony revealed an overwhelming need for the type of legislation outlined by H.R. 12549, the precise nature of the undertaking was never, and perhaps never could have been, specifically outlined. The committee was, however, very favorably impressed by the testimony of Mr. Peter S. Hunt, a systems analyst and management consultant who recommended a moderate beginning for the

Council with perhaps 55 professional employees and 20-30 members of the clerical staff. Approximately one-half of the professional staff, as detailed in an outline submitted to the committee by Mr. Hunt, would be devoted to the job of liaison and coordination with the operating agencies; the rest would be assigned to work on the annual report and on work associated with the research and study functions of the Council.

Several members of the scientific community stressed the need for the development of an adequate information collection and retrieval system. Their testimony indicated that there is today a 5- to 10-year gap between the development of basic research information and its technological implementation. Much of this basic research has significant implications for both improvement and degradation of man's environment, and it was concluded that activities in this area would more than repay the initial investment, to the extent that the Council could assist in making this information more accessible to the public and to the Federal Government.

State and local governments have a large stake in the common problem; it is also true that by no means all of the environmental problems which we see are caused, even indirectly, by the Federal Government alone. Witnesses at the hearings stressed the need for a continuing interchange between the Council and other agencies, including private citizens' groups, as a significant part of the environmental problems, and your committee wishes to underscore the desirability of establishing clear and open lines of communication between the Council and the public. The Council should also consider the impact of its activities upon the educational system, together with ways and means of continuing the growing trend toward public enlightenment on and concern with the important environmental issues that we confront.

The interdepartmental Council fills a clear and observed need today as a means of coordinating and resolving internal policy disputes between different executive agencies of the Government. Although the Council proposed by H.R. 12549 may well prove to be an asset to the President and the Congress as a means of resolving these conflicts, this is not the principal purpose of this bill.

That purpose is rather to create, by legislative action, standing outside the programs that can be done and undone by unilateral executive action, a Council which can provide a consistent and expert source of review of national policies, environmental problems and trends, both long term and short term. Such a Council would act entirely independently of the executive, mission-oriented agencies.

The President, the Congress, and the American people stand in need of this type of assistance. No organization, in existence or contemplated, except as provided for in this and similar bills, shows any sign of meeting that need. It is for this reason that your committee unanimously recommends the creation of such a Council, through enactment of H.R. 12549.

SECTION-BY-SECTION ANALYSIS

There follows a section-by-section summary of H.R. 12549, accompanied by discussion where appropriate. As indicated previously, H.R. 12549 is a clean bill, representing several amendments in its parent, H.R. 6750, and in the many similar and identical bills before your committee.

Section 1 of the bill would amend the Fish and Wildlife Coordination Act by inserting a new section in the act designated as section 5A.

Subsection (a) of the new section would recognize the impact of man's activities upon his environment and the critical importance of making that impact less adverse to his welfare. Accordingly, it states a basic and continuing policy that the Federal Government, in cooperation with all other interested parties, shall use all practicable means and measures, including financial and technical assistance, to assure that man's capacity to change his environment is devoted to making that change one for the better, while remaining consistent with his future social, economic, and other needs.

Subsection (b) of the new section would direct the President to transmit to the Congress at the close of each fiscal year an annual report setting forth an inventory of the American environment, broadly and generally identified, together with an estimate of the impact of visible future trends upon our future environment. This report would follow the report submitted by the Council in May of each year; your committee assumes—and would like to emphasize that it deems it advisable—that the Council's report will accompany that of the President, as is the case with the report of the Council of Economic Advisers, after whose enabling legislation this bill is closely patterned. Implicit in this section is the understanding that the international implications of our current activities will also be considered, inseparable as they are from the purely national consequences of our actions.

Subsection (c)(1) of the new section would create a five-man Council on Environmental Quality in the Office of the President. Although the original bills before the committee provided for a three-man Council, your committee feels that the clear need is for a slightly larger Council with more personal resources available to it, and yet not so large as to be unwieldy; the Chairman of the Council would be designated by the President, since he would be acting as a major adviser to the President in this area. The qualifications of the Council members are stated broadly, since generalists are what the Council will require, and since it is impossible to define generalists adequately except in terms of their overall excellence and competence. Most critical in the selection of the Council members will be their commitment to an understanding and resolution of the environmental problems which we confront as a society.

Subsection (c)(2) would authorize the Council to employ the necessary staff to assist it in carrying out its duties. The importance of attracting and holding an extremely high caliber staff is of great importance. This subsection would give the Council broad authority to obtain the services of experts and consultants, including advisory committees and task forces on specific environmental problems.

Subsection (c)(3) would specify the duties and functions of the Council. These include:

- (A) Assisting the President in the preparation of the annual report;
- (B) Gathering information on the short- and long-term problems that merit Council attention, together with a constant analysis of these problems as they may affect the policies stated in subsection (a), and a constant inflow of information to the President on the significance of these problems;

(Electronic data processing shows promise of proving valuable assistance to the Council in this respect, and it is hoped that the Council will make the information so gathered available to all interested and affected segments of society. In so doing, and elsewhere, the Council would be performing an important educational function, since it is axiomatic that only enlightened public opinion can permit the Council to produce maximum benefits. In this connection, it is the hope of your committee that reports and studies prepared by the Council would be given maximum public distribution.)

(C) maintaining a constant review of Federal programs and activities as they may affect the policies declared in subsection (a), and keeping the President informed on the degree to which those programs and activities may be consistent with those policies;

One way in which this might be done would be to develop a sophisticated method of cost and benefit analysis—in which the total (and often not strictly economic) consequences of Federal activities may be assessed. The environmental auditing function of the Council falls squarely within the functions specified in this subsection.

(D) requiring the Council to review and to recommend policies to the President, on the basis of its activities, whereby the quality of our environment may be enhanced, consistent with our social, economic and other requirements; and

(E) authorizing the Council to make studies and recommendations relating to environmental considerations, as the President may direct;

Your committee is well aware that the problems with which this legislation attempts to deal are long term, and that not all eventualities or problems are foreseeable. This requirement allows the Council to adapt to changing circumstances, as it must if it is to remain an effective agency for environmental improvement.

Subsection (c)(4) would direct the Council to make an annual report on its activities to the President. It is not the purpose of your committee to require that this report be the type which so often is submitted by advisory groups, however august and competent they may be. Such reports are often reduced to vague and reassuring generalities, since it is only upon generalities that all members can agree. The stakes are too high, and the consequences of inaction are too apparent, for the report of the Council to be anything less than the best that each member of the Council can produce; if honest disagreement occurs within the Council, your committee would hope that this would not be smothered in an attempt to show consensus where no consensus actually exists. The President is equipped to resolve differences of opinion, by recourse to independent advisers if necessary, and it is most important that he be aware of the differences of opinion that may exist, just as it is important that he be aware of the existence of general agreement. Again, your committee would like to emphasize that it expects the report of the Council to be appended to report of the President, for the information and education of the the Congress and of the American people.

Subsection (c)(5) would require the Council to maintain open lines of communication with all affected segments of society, and would instruct it to avoid duplication of work that has already been done by others, wherever that can be done. This will be of particular significance as the Council acts to set up the data bank referred to in

(3)(B) of this subsection; certainly most of the information flowing into that bank will have to be derived from sources outside the Council, and it will become vital that the Council assure itself that this information continue to be available to it.

Section 2 of the bill would amend title 5 of the United States Code to add the Chairman of the Council to level II of the Executive Pay Schedule, and the balance of the Council members to level IV. Since this is the same compensation received by the Chairman and members of the Council of Economic Advisers, who devote their full time to carrying out their duties, likewise it would be expected that the Chairman and members of the Council on Environmental Quality will devote their full time in carrying out the work of this high level Council.

THE AMENDMENT

The amendment to the bill was to correct a printing error to change the word "of" to "on".

COST OF THE LEGISLATION

On the basis of the staff levels projected in testimony, your committee estimates the cost of the legislation to the Federal Government would be approximately \$1 million per year.

DEPARTMENTAL REPORTS

Departmental reports on H.R. 6750, the bill on which the hearings were held, are as follows:

U.S. DEPARTMENT OF THE INTERIOR,
Washington, D.C., June 19, 1969.

HON. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Your committee has requested the views of this Department on H.R. 6750, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

H.R. 6750 would establish in the Office of the President an environmental council composed of members appointed by the President with the advice and consent of the Senate to advise the President on environmental problems.

We believe the recent establishment by the President of the Environmental Quality Council is an important step forward in the national effort to focus more attention on the needs of the environment. As we gain experience with the operation of that Council, we are confident that new procedures will evolve leading progressively to more effective environmental management by the Federal Government.

Should the Congress feel that the establishment of a separate environmental advisory body in the Executive Office of the President along the lines contemplated by H.R. 6750, is desirable to assist the efforts of the President's Council, this Department would not object to such action.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

WALTER J. HICKEL,
Secretary of the Interior.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, July 1, 1969.

HON. EDWARD A. GARMATZ,
*Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This letter is in response to your request of March 4, 1969, for a report on H.R. 6750, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

The bill states that the Congress, recognizing the impact of man's activity on the interrelations of all components of the natural environment, declares it to be the policy of the Federal Government, in cooperation with State and local governments and various organizations, to use all practicable means and measures in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

The bill would also require the President to transmit annually beginning June 30, 1970, an environmental quality report which would set forth the status and condition of the major natural, man made, or altered environmental classes of the Nation and the current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation. A Council on Environmental Quality would be created in the Executive Office of the President to appraise environmental programs and activities of the Government and to formulate and recommend national policy to promote the improvement of our environmental quality and to assist and advise the President in the preparation of the environmental quality report. The Council would be composed of three members appointed by the President with the advice and consent of the Senate. It could employ such officers and employees as may be necessary to carry out its functions under the bill.

We strongly support an appropriate mechanism for the development of a coordinated national policy on environmental quality. This Department conducts many programs concerned with the environment. These programs almost exclusively concern the effects of environmental stress on human health and welfare. Included in these programs are activities concerned with the effect of environmental forces on man in his home, in the community, and in the workplace, and the environment as it relates to products used by man and their effect on him.

In conducting these programs we have many relationships with other Federal agencies. Some of these are formalized such as that between this Department and the Department of the Interior regarding the

public health aspects of water pollution control where the relationship is established by law. Other working relationships are less formal and include, for example, cooperative undertakings conducted through interagency agreements and participation in the activities of committees established under the Federal Council on Science and Technology.

As concern with environmental quality matters has grown and as more Federal agencies have become extensively involved with protecting and improving the environment, it has become obvious to this Department that there is a need for better planning and coordination of the numerous activities in the environmental area.

The President issued Executive Order 11472 on May 29, 1969, establishing an Environmental Quality Council and a Citizens Advisory Committee on Environmental Quality. This Council and Advisory Committee are given broad responsibilities for advising and assisting the President with respect to environmental quality matters. While we think that experience should be gained under these new organizational arrangements before additional entities are established, we recognize that a separate Presidential advisory body might be useful in assisting the work of the President's Environmental Quality Council.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

Acting Secretary.

GENERAL COUNSEL OF THE DEPARTMENT OF COMMERCE,
Washington, D.C.

HON. EDWARD A. GARMATZ,
Chairman, Committee on Merchant Marine and Fisheries, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in further reply to your request for the views of this Department concerning H.R. 6750, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

The primary purpose of H.R. 6750 is to develop national policy aimed at restoring, improving, and maintaining environmental quality. To accomplish this, a Council on Environmental Quality would be established within the Executive Office of the President. The Council would be comprised of three private individuals appointed by the President, by and with the advice and consent of the Senate. One of the functions of this Council would be to assist and advise the President in the preparation of the Environmental Quality Report which the President would submit annually to the Congress. The report, among other things, would set forth "the status and condition of the major natural, man made, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, land, range, urban, suburban, and rural environment." The Council would also, among other things, review programs of the Federal Government relating to environmental quality and develop and

recommend national policies to improve environmental quality and develop and recommend national policies to improve environmental quality.

In recognition of the critical importance of maintaining and improving environmental quality, the President, by Executive Order 11472, dated May 29, 1969, established an Environmental Quality Council composed of the Vice President of the United States, the Secretaries of those Departments most directly concerned with environmental matters, including the Secretary of Commerce, and such other heads of departments and agencies and others as the President may from time to time direct. The Executive order also provides for the establishment of a Citizens' Advisory Committee on Environmental Quality. The functions assigned to the Council and to the committee parallel in large measure those which are set forth in H.R. 6750, and for this reason you may want to consider the need for enactment of this legislation.

We have been advised by the Bureau of the Budget that there would be no objection to the submission of our report to the Congress from the standpoint of the administration's program.

Sincerely yours,

General Counsel.

EXECUTIVE OFFICE OF THE PRESIDENT,
NATIONAL COUNCIL ON MARINE RESOURCES
AND ENGINEERING DEVELOPMENT,
Washington, June 25, 1969.

HON. EDWARD A. GARMATZ,
Chairman, House Merchant Marine and Fisheries Committee,
House of Representatives, Washington, D.C.

DEAR MR. GARMATZ: This is in reply to your letter of March 4, requesting views and recommendations on H.R. 6750, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

The bill contains a statement of policy that "the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations * * * [shall] * * * use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."

It requires the President to transmit to the Congress an annual environmental quality report, setting forth the conditions of the Nation's environmental classes and current and foreseeable trends in the management and utilization of such environments. It creates in the Executive Office of the President a Council on Environmental Quality, composed of three members appointed by the President by and with the advice and consent of the Senate.

The Council will assist and advise the President in the preparation of the environmental quality report, gather information concerning conditions and trends in environmental qualities, appraise the various

Federal programs and activities in the light of the policy set forth above, develop and recommend to the President national policies to foster and promote the improvement of environmental quality, and make such studies, reports, and recommendations with respect to matters of policy and legislation as the President may request.

During the history of our Nation, man has been deeply concerned with the effects of the environment upon his activities. As his society became more complex and his technology more efficient, his activities came to exert an increasing effect upon that environment. These effects are particularly noticeable in the coastal zone. As stated in the President's last annual report on marine science affairs,

"* * * any description of the coastal zone must also include a description of deterioration of the environment itself—by pollution of bays and estuaries, by hurricane damage and wave erosion, and by inadvertent human abuse of a fragile ecology that forms the habitat of important fish and wildlife. For example, the coastal zone is the most important habitat of domestic fishery resources supplying 90 to 95 percent of the total U.S. catch; but our estuaries are being altered, directly threatening many of these valuable fishery resources.

"The scope, diversity, and significance of activities in the coastal zone are so broad that practically all institutions of our society have become involved in its use and management—private individuals who own shoreline; industrial, conservation, and recreational interests; local and State governments; and the Federal Government."

Although environmental problems in the marine environment are most severe within the coastal zone, even the deep oceans are not immune. DDT and its degradation products may be found throughout the world's oceans; domestic, industrial, and radioactive wastes are deliberately deposited on the ocean floor; increasing atmospheric CO₂ content could reduce the size of the Arctic and Antarctic ice masses, raise sea levels, and elevate oceanic temperatures.

Marine environmental problems are already severe, and will become more so as exploding populations exert ever-increasing demands upon the sea. The Marine Sciences Council has recognized this problem in its consideration of the planned use of the coastal zone, the development of fuels and minerals from marine sources, the national contingency plan for oil and hazardous materials, and other issues which have come before it. While we recognize the importance of protecting the marine environment against the abuses of man, we also recognize that this problem transcends the marine environment, and is best attacked from a broader viewpoint. We also feel it desirable to obtain the guidance of the Congress in developing a national policy for use of the total environment and appreciate the need to keep the Nation informed as to the state of the environment and the effectiveness of environmental management.

The President, as you know, has recently created, through Executive order, a Cabinet-level council concerned with environmental quality. In view of this action, you may want to consider the need for establishment of a statutory council of advisers.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

EDWARD WENK, Jr.

NATIONAL SCIENCE FOUNDATION,
OFFICE OF THE DIRECTOR,
Washington, D.C., June 20, 1969.

HON. EDWARD A. GARMATZ,
*Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in further reply to your request of March 4, 1969, for comments on H.R. 6750, to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

As in the case of similar legislation recently introduced, the National Science Foundation favors the objectives of H.R. 6750. The bill is concerned with the relation of man to his environment, and deals with physical and natural hazards and the resultant consequences to the community. The proposed Council on Environmental Quality appears in some respects to be modeled on the Council of Economic Advisers.

We believe, however, that a statutory Environmental Council should be considered within the context of governmental organization and the totality of agency missions in the environmental field before legislation on the matter is enacted. For example, there already is a Committee on Environmental Quality in the Federal Council on Science and Technology, and the President has recently established a Council for Urban Affairs as a first move toward reordering the interdepartmental coordination of domestic agency functions. In addition, the President has recently established a Cabinet-level Council on Environmental Quality. It might, therefore, be preferable to defer action on this matter until the organization of the new administration in these areas takes more definite form.

The Bureau of the Budget has advised us that there is no objection to the submission of this report from the viewpoint of the administration's program.

Sincerely yours,

LELAND J. HAWORTH, *Director.*

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., June 19, 1969.

HON. EDWARD A. GARMATZ,
*Chairman, Committee on Merchant Marine and Fisheries, House of
Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense on H.R. 6750, 91st Congress, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

The bill would establish in the Executive Office of the President a Council on Environmental Quality composed of members appointed by the President, with the advice and consent of the Senate. The President would also be required to submit an annual environmental quality report to the Congress. In addition, the Fish and Wildlife Coordination Act would be amended to provide that it is Federal policy to cooperate with State and local governments and other

organizations to use all practical means and measures to promote the general welfare with respect to environmental quality.

The President, by Executive Order 11472, on May 29, 1969, established an Environmental Quality Council, which provides a means for developing and coordinating a comprehensive effort among the departments and agencies of the Federal Government having responsibilities in the various aspects of environmental quality. The Department of Defense defers to the views of the Executive Office of the President with regard to the need for the enactment of H.R. 6750.

The Bureau of the Budget advises that, from the standpoint of the administration's program, there is no objection to the presentation of this report for the consideration of the committee.

Sincerely,

FRANK A. BARTIMO,
Acting General Counsel.

DEPARTMENT OF AGRICULTURE,
Washington, May 12, 1969.

HON. EDWARD A. GARMATZ,
*Chairman, Committee on Merchant Marine and Fisheries,
House of Representatives.*

DEAR MR. CHAIRMAN: This is in response to your request for a report on H.R. 6750, a bill to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

H.R. 6750 would amend the Fish and Wildlife Coordination Act by adding a new section 5(a) to the act relating to an environmental quality report and Council on Environmental Quality.

The new section 5(a) would require the President to submit to the Congress annually, beginning June 30, 1970, an environmental quality report. This report would set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, and (2) the current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

The new section would also create in the Executive Office of the President a three-member Council on Environmental Quality, appointed by the President by and with the advice and consent of the Senate. Each member would be exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise environmental programs and activities of the Government, and to formulate and recommend national policy to promote improvement of environmental quality. The Council would (1) assist and advise the President in the preparation of the environmental quality report, (2) gather, analyze, and interpret information concerning environmental quality, (3) appraise various Federal programs to determine the extent to which they are contributing to the policy set forth in the bill, (4) develop and recommend to the President national policies to foster and promote improvement of the environmental quality and, (5) make and furnish studies, reports, and recommendations as requested by the President. The Council would also make an annual report to the President each year.

The Department of Agriculture supports the objectives of H.R. 6750.

The environment in which we live affects, for better or worse, or health, our outlook and attitudes, our opportunities for a satisfactory life, and even our prospects for continued existence. There is constant interplay of resource use and exploitation, manufacturing processes, and air, water, and soil pollution, with efforts to maintain continuing production, a healthy environment, and attractive surroundings. Many of these factors are affected, favorably or adversely, by Federal, State, and local programs and activities and by the every-day activities of agriculture, industry, and people. We believe that our complex and highly technical society could well benefit from a continuing, detached, and broad appraisal of factors that affect our environment.

However, we do not recommend enactment of H.R. 6750. The President has announced his intention to establish an Environmental Quality Council within the Executive Office of the President. Such a Council, we believe, would be able to assist and advise the President on national policies in the field of environmental policy and conduct an assessment of current activities in this area.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

J. PHIL CAMPBELL,
Under Secretary.

CHANGES IN EXISTING LAW

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, as amended, changes in existing law made by the bill as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

Fish and Wildlife Coordination Act

Act of March 10, 1934 (48 Stat. 401), as amended (16 U.S.C. 661-666c)

SECTION. 1. For the purpose of recognizing the vital contribution of our wildlife resources to the Nation, the increasing public interest and significance thereof due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation for the purposes of this Act in the United States, its Territories and possessions, the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections;

(2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections.

SEC. 2. (a) Except as hereafter stated in subsection (h) of this section, whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.

(b) In furtherance of such purposes, the reports and recommendations of the Secretary of the Interior on the wildlife aspects of such projects, and any report of the head of the State agency exercising administration over the wildlife resources of the State, based on surveys and investigations conducted by the United States Fish and Wildlife Service and such State agency for the purpose of determining the possible damage to wildlife resources and for the purpose of determining means and measures that should be adopted to prevent the loss of or damage to such wildlife resources, as well as to provide concurrently for the development and improvement of such resources, shall be made an integral part of any report prepared or submitted by any agency of the Federal Government responsible for engineering surveys and construction of such projects when such reports are presented to the Congress or to any agency or person having the authority or the power, by administrative action or otherwise, (1) to authorize the construction of water-resource development projects or (2) to approve a report on the modification or supplementation of plans for previously authorized projects, to which this Act applies. Recommendations of the Secretary of the Interior shall be as specific as is practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages. The reporting officers in project reports of the Federal agencies shall give full consideration to the report and recommendations of the Secretary of the Interior and to any report of the State agency on the wildlife aspects of such projects, and the project plan shall include such justifiable means and measures for wildlife purposes as the reporting agency finds should be adopted to obtain maximum overall project benefits.

(c) Federal agencies authorized to construct or operate water-control projects are authorized to modify or add to the structures and operations of such projects, the construction of which has not been

substantially completed on the date of enactment of the Fish and Wildlife Coordination Act, and to acquire lands in accordance with section 3 of this Act, in order to accommodate the means and measures for such conservation of wildlife resources as an integral part of such projects: *Provided*, That for projects authorized by a specific Act of Congress before the date of enactment of the Fish and Wildlife Coordination Act (1) such modification or land acquisition shall be compatible with the purposes for which the project was authorized; (2) the cost of such modifications or land acquisition, as means and measures to prevent loss of and damage to wildlife resources to the extent justifiable, shall be an integral part of the cost of such projects; and (3) the cost of such modifications or land acquisition for the development or improvement of wildlife resources may be included to the extent justifiable, and an appropriate share of the cost of any project may be allocated for this purpose with a finding as to the part of such allocated cost, if any, to be reimbursed by non-Federal interests.

(d) The cost of planning for and the construction or installation and maintenance of such means and measures adopted to carry out the conservation purposes of this section shall constitute an integral part of the cost of such projects: *Provided*, That such cost attributable to the development and improvement of wildlife shall not extend beyond those necessary for (1) land acquisition, (2) modification of the project, and (3) modification of project operations; but shall not include the operation of wildlife facilities nor the construction of such facilities beyond those herein described: *And provided further*, That, in the case of projects authorized to be constructed, operated, and maintained in accordance with the Federal reclamation laws (Act of June 17, 1902, 32 Stat. 388, and Acts amendatory thereof or supplementary thereto), the Secretary of the Interior, in addition to allocations made under section 9 of the Reclamation Project Act of 1939 (53 Stat. 1187), shall make findings on the part of the estimated cost of the project which can properly be allocated to means and measures to prevent loss of and damage to wildlife resources, which costs shall not be reimbursable, and an appropriate share of the project costs may be allocated to development and improvement of wildlife resources, with a finding as to the part of such allocated costs, if any, to be reimbursed by non-Federal fish and wildlife agencies or interests.

(e) In the case of construction by a Federal agency, that agency is authorized to transfer to the United States Fish and Wildlife Service, out of appropriations or other funds made available for investigations, engineering, or construction, such funds as may be necessary to conduct all or part of the investigations required to carry out the purposes of this section.

(f) In addition to other requirements, there shall be included in any report submitted to Congress supporting a recommendation for authorization of any new project for the control or use of water as described herein (including any new division of such project or new supplemental works on such project) an estimation of the wildlife benefits or losses to be derived therefrom including benefits to be derived from measures recommended specifically for the development and improvement of wildlife resources, the cost of providing wildlife benefits (including the cost of additional facilities to be installed or lands to be acquired specifically for that particular phase of wildlife conservation relating to the development and improvement of wild-

life), the part of the cost of joint-use facilities allocated to wildlife, and the part of such costs, if any, to be reimbursed by non-Federal interests.

(g) The provisions of this section shall be applicable with respect to any project for the control or use of water as prescribed herein, or any unit of such project authorized before or after the date of enactment of the Fish and Wildlife Coordination Act for planning or construction, but shall not be applicable to any project or unit thereof authorized before the date of enactment of the Fish and Wildlife Coordination Act if the construction of the particular project or unit thereof has been substantially completed. A project or unit thereof shall be considered to be substantially completed when sixty percent or more of the estimated construction cost has been obligated for expenditure.

(h) The provisions of this Act shall not be applicable to those projects for the impoundment of water where the maximum surface area of such impoundments is less than 10 acres, nor to activities for or in connection with programs primarily for land management and use carried out by Federal agencies with respect to Federal lands under their jurisdiction.

SEC. 3. (a) Subject to the exceptions prescribed in section 2(h) of this Act, whenever the waters of any stream or other body of water are impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, adequate provision, consistent with the primary purposes of such impoundment, diversion, or other control, shall be made for the use thereof, together with any areas of land, water, or interests therein, acquired or administered by a Federal agency in connection therewith, for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon, including the development and improvement of such wildlife resources pursuant to the provisions of section 2 of this Act.

(b) The use of such waters, land, or interests therein for wildlife conservation purposes shall be in accordance with general plans approved jointly (1) by the head of the particular department or agency exercising primary administration in each instance, (2) by the Secretary of the Interior, and (3) by the head of the agency exercising the administration of the wildlife resources of the particular State wherein the waters and areas lie. Such waters and other interests shall be made available, without cost for administration, by such State agency, if the management of the properties relate to the conservation of wildlife other than migratory birds, or by the Secretary of the Interior, for administration in such manner as he may deem advisable, where the particular properties have value in carrying out the national migratory bird management program: *Provided*, That nothing in this section shall be construed as affecting the authority of the Secretary of Agriculture to cooperate with the States or in making lands available to the States with respect to the management of wildlife and wildlife habitat on lands administered by him.

(c) When consistent with the purposes of this Act and the reports and findings of the Secretary of the Interior prepared in accordance with section 2 [of this Act], land, waters, and interests therein may be acquired by Federal construction agencies for the wildlife con-

servation and development purposes of this Act in connection with a project as reasonably needed to preserve and assure for the public benefit the wildlife potentials of the particular project area: *Provided*, That before properties are acquired for this purpose, the probable extent of such acquisition shall be set forth, along with other data necessary for project authorization, in a report submitted to the Congress, or in the case of a project previously authorized, no such properties shall be acquired unless specifically authorized by Congress if specific authority for such acquisition is recommended by the construction agency.

(d) Properties acquired for the purposes of this section shall continue to be used for such purposes, and shall not become the subject of exchange or other transactions if such exchange or other transaction would defeat the initial purpose of their acquisition.

(e) Federal lands acquired or withdrawn for Federal water-resource purposes and made available to the States or to the Secretary of the Interior for wildlife management purposes, shall be made available for such purposes in accordance with this Act, notwithstanding other provisions of law.

(f) Any lands acquired pursuant to this section by any Federal agency within the exterior boundaries of a national forest shall, upon acquisition, be added to and become national forest lands, and shall be administered as a part of the forest within which they are situated, subject to all laws applicable to lands acquired under the provisions of the Act of March 1, 1911 (36 Stat. 961), unless such lands are acquired to carry out the National Migratory Bird Management Program.

SEC. 4. Such areas as are made available to the Secretary of the Interior for the purposes of this Act, pursuant to sections 1 and 3 [of this Act] or pursuant to any other authorization, shall be administered by him directly or in accordance with cooperative agreements entered into pursuant to the provisions of section 1 of this Act and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, as may be adopted by the Secretary in accordance with general plans approved jointly by the Secretary of the Interior and the head of the department or agency exercising primary administration of such areas: *Provided*, That such rules and regulations shall not be inconsistent with the laws for the protection of fish and game of the States in which such area is situated: *Provided further*, That lands having value to the National Migratory Bird Management Program may, pursuant to general plans, be made available without cost directly to the State agency having control over wildlife resources, if it is jointly determined by the Secretary of the Interior and such State agency that this would be in the public interest: *And provided further*, That the Secretary of the Interior shall have the right to assume the management and administration of such lands in behalf of the National Migratory Bird Management Program if the Secretary finds that the State agency has withdrawn from or otherwise relinquished such management and administration.

SEC. 5. The Secretary of the Interior, through the Fish and Wildlife Service and the Bureau of Mines, is authorized to make such investigations as he deems necessary to determine the effects of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and

other polluting substances on wildlife, and to make reports to the Congress concerning such investigations and of recommendations for alleviating dangerous and undesirable effects of such pollution. These investigations shall include (1) the determination of standards of water quality for the maintenance of wildlife; (2) the study of methods of abating and preventing pollution, including methods for the recovery of useful or marketable products and byproducts of wastes; and (3) the collation and distribution of data on the progress and results of such investigations for the use of Federal, State, municipal, and private agencies, individuals, organizations, or enterprises.

SEC. 5A. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, both living and nonliving, and the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) The President shall transmit to the Congress annually beginning June 30, 1970, an Environmental Quality Report (hereinafter referred to as the 'report') which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

(c)(1) There is created in the Executive Office of the President a Council on Environmental Quality (hereafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate, one of whom the President shall designate as chairman, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise programs and activities of the Government in the light of the policy set forth in subsection (a) of this section, and to formulate and recommend national policy to promote the improvement of our environmental quality.

(2) The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this section, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

(3) It shall be the duty and function of the Council—

(A) to assist and advise the President in the preparation of the Environmental Quality Report;

(B) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and

prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in subsection (a) of this section, and to compile and submit to the President studies relating to such conditions and trends;

(C) to appraise the various programs and activities of the Federal Government in the light of the policy set forth in subsection (a) of this section for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(D) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet social, economic, and other requirements of the Nation; and

(E) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

(4) The Council shall make an annual report to the President in May of each year.

(5) In exercising its powers, functions, and duties under this section—

(A) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, organizations, State and local governments, and other groups, as it deems advisable; and

(B) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided.

[SEC. 5A] *Sec. 5B.* In the management of existing facilities (including locks, dams, and pools) in the Mississippi River between Rock Island, Illinois, and Minneapolis, Minnesota, administered by the United States Corps of Engineers of the Department of the Army, that Department is directed to give full consideration and recognition to the needs of fish and other wildlife resources and their habitat dependent on such waters, without increasing additional liability to the Government, and, to the maximum extent possible without causing damage to levee and drainage districts, adjacent railroads and highways, farm lands, and dam structures, shall generally operate and maintain pool levels as though navigation was carried on throughout the year.

SEC. 6. There is authorized to be appropriated from time to time, out of any money in the Treasury not otherwise appropriated, such amounts as may be necessary to carry out the provisions of this Act and regulations made pursuant thereto, including the construction of such facilities, buildings, and other improvements necessary for economical administration of areas made available to the Secretary of the Interior under said sections of this Act, and the employment in the city of Washington and elsewhere of such persons and means as the Secretary of the Interior may deem necessary for such purposes.

SEC. 7. Any person who shall violate any rule or regulation promulgated in accordance with this Act shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than \$500 or imprisoned for not more than one year, or both.

SEC. 8. The terms "wildlife" and wildlife resources" as used in this Act include birds, fishes, mammals, and all other classes of wild ani-

imals and all types of aquatic and land vegetation upon which wildlife is dependent.

SEC. 9. The provisions of this Act shall not apply to the Tennessee Valley Authority.

SECTION 5313 OF TITLE 5, UNITED STATES CODE

§ 5313. Positions at level II

Level II of the Executive Schedule applies to the following positions, for which the annual rate of basic pay is \$30,000:

- (1) Deputy Secretary of Defense.
- (2) Under Secretary of State.
- (3) Administrator, Agency for International Development.
- (4) Administrator of the National Aeronautics and Space Administration.
- (5) Administrator of Veterans' Affairs.
- (6) Repealed. Pub. L. 90-83. § 1(13), Sept. 11, 1967, 81 Stat. 198.
- (7) Under Secretary of Transportation.
- (8) Chairman, Atomic Energy Commission.
- (9) Chairman, Council of Economic Advisers.
- (10) Chairman, Board of Governors of the Federal Reserve System.
- (11) Director of the Bureau of the Budget.
- (12) Director of the Office of Science and Technology.
- (13) Director of the United States Arms Control and Disarmament Agency.
- (14) Director of the United States Information Agency.
- (15) Director of Central Intelligence.
- (16) Secretary of the Air Force.
- (17) Secretary of the Army.
- (18) Secretary of the Navy.
- (19) Administrator, Federal Aviation Administration.
- (20) *Chairman, Council on Environmental Quality.*

SECTION 5315 OF TITLE 5, UNITED STATES CODE

§ 5315. Positions at level IV

Level IV of the Executive Schedule applies to the following positions, for which the annual rate of basic pay is \$27,000:

- (1) Administrator, Bureau of Security and Consular Affairs, Department of State.
- (2) Repealed. Pub.L. 89-670, § 10(e), Oct. 15, 1966, 80 Stat. 948.
- (3) Deputy Administrator of General Services.
- (4) Associate Administrator of the National Aeronautics and Space Administration.
- (5) Assistant Administrators, Agency for International Development (6).
- (6) Regional Assistant Administrators, Agency for International Development (4).
- (7) Under Secretary of the Air Force.
- (8) Under Secretary of the Army.

- (9) Under Secretary of the Navy.
- (10) Deputy Under Secretaries of State (2).
- (11) Assistant Secretaries of Agriculture (3).
- (12) Assistant Secretaries of Commerce (5).
- (13) Assistant Secretaries of Defense (7).
- (14) Assistant Secretaries of the Air Force (3).
- (15) Assistant Secretaries of the Army (3).
- (16) Assistant Secretaries of the Navy (3).
- (17) Assistant Secretaries of Health, Education, and Welfare (5).
- (18) Assistant Secretaries of the Interior (5).
- (19) Assistant Attorneys General (9).
- (20) Assistant Secretaries of Labor (4).
- (21) Assistant Postmasters General (6).
- (22) Assistant Secretaries of State (11).
- (23) Assistant Secretaries of the Treasury (4).
- (24) Chairman of the United States Tariff Commission.
- (25)–(28) Repealed. Pub.L. 90–83, § 1(15) (E), Sept. 11, 1967, 81 Stat. 198.
- (29) Director of Civil Defense, Department of the Army.
- (30) Repealed. Pub.L. 90–83, § 1(15) (E), Sept. 11, 1967, 81 Stat. 198.
- (31) Deputy Chief Medical Director in the Department of Medicine and Surgery, Veterans' Administration.
- (32) Deputy Director of the Office of Emergency Planning.
- (33) Deputy Director of the Office of Science and Technology.
- (34) Deputy Director of the Peace Corps.
- (35) Deputy Director of the United States Arms Control and Disarmament Agency.
- (36) Deputy Director of the United States Information Agency.
- (37) Assistant Directors of the Bureau of the Budget (3).
- (38) General Counsel of the Department of Agriculture.
- (39) General Counsel of the Department of Commerce.
- (40) General Counsel of the Department of Defense.
- (41) General Counsel of the Department of Health, Education, and Welfare.
- (42) Solicitor of the Department of the Interior.
- (43) Solicitor of the Department of Labor.
- (44) General Counsel of the National Labor Relations Board.
- (45) General Counsel of the Post Office Department.
- (46) Counselor of the Department of State.
- (47) Legal Adviser of the Department of State.
- (48) General Counsel of the Department of the Treasury.
- (49) First Vice President of the Export-Import Bank of Washington.
- (50) General Manager of the Atomic Energy Commission.
- (51) Governor of the Farm Credit Administration.
- (52) Inspector General, Foreign Assistance.
- (53) Deputy Inspector General, Foreign Assistance.
- (54) Members, Civil Aeronautics Board.
- (55) Members, Council of Economic Advisers.
- (56) Members, Board of Directors of the Export-Import Bank of Washington.
- (57) Members, Federal Communications Commission.

- (58) Member, Board of Directors of the Federal Deposit Insurance Corporation.
- (59) Members, Federal Home Loan Bank Board.
- (60) Members, Federal Power Commission.
- (61) Members, Federal Trade Commission.
- (62) Members, Interstate Commerce Commission.
- (63) Members, National Labor Relations Board.
- (64) Members, Securities and Exchange Commission.
- (65) Members, Board of Directors of the Tennessee Valley Authority.
- (66) Members, United States Civil Service Commission.
- (67) Members, Federal Maritime Commission.
- (68) Members, National Mediation Board.
- (69) Members, Railroad Retirement Board.
- (70) Director of Selective Service.
- (71) Associate Director of the Federal Bureau of Investigation, Department of Justice.
- (72) Chairman, Equal Employment Opportunity Commission.
- (73) Chief of Protocol, Department of State.
- (74) Director, Bureau of Intelligence and Research, Department of State.
- (75) Director, Community Relations Service.
- (76) United States Attorney for the District of Columbia.
- (77) United States Attorney for the Southern District of New York.
- (78) Members, National Transportation Safety Board.
- (79) General Counsel, Department of Transportation.
- (80) Deputy Administrator, Federal Aviation Administration.
- (81) Assistant Secretaries of Transportation (4).
- (82) Director of Public Roads.
- (83) Administrator of the St. Lawrence Seaway Development Corporation.
- (84) Assistant Secretary for Science, Smithsonian Institution.
- (85) Assistant Secretary for History and Art, Smithsonian Institution.
- (86) Deputy Administrator of the Small Business Administration.
- (87) Assistant Secretaries of Housing and Urban Development (6).
- (88) General Counsel of the Department of Housing and Urban Development.
- (89) Commissioner of Interama.
- (90) Administrator of Law Enforcement Assistance.
- (91) Federal Insurance Administrator, Department of Housing and Urban Development.
- (92) *Members, Council on Environmental Quality.*

91ST CONGRESS
1ST SESSION

H. R. 12549

[Report No. 91-378]

IN THE HOUSE OF REPRESENTATIVES

JULY 1, 1969

Mr. DINGELL (for himself, Mr. LENNON, Mr. PELLY, Mr. DOWNING, Mr. KEITH, Mr. KARTH, Mr. DELLENBACK, Mr. ROGERS of Florida, Mr. POLLOCK, Mr. HANNA, Mr. GOODLING, Mr. LEGGETT, Mr. McCLOSKEY, Mr. ANNUNZIO, Mr. FREY, and Mr. BIAGGI) introduced the following bill; which was referred to the Committee on Merchant Marine and Fisheries

JULY 11, 1969

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

[Omit the part struck through and insert the part printed in italic]

A BILL

To amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Fish and Wildlife Coordination Act is amended by
4 redesignating section 5A as section 5B and by inserting
5 immediately after section 5 the following new section:

6 “SEC. 5A. (a) The Congress, recognizing the profound
7 impact of man’s activity on the interrelations of all compo-
8 nents of the natural environment, both living and nonliving,

1 and the critical importance of restoring and maintaining
2 environmental quality to the overall welfare and development
3 of man, declares that it is the continuing policy of the Fed-
4 eral Government, in cooperation with State and local gov-
5 ernments, urban and rural planners, industry, labor, agri-
6 culture, science, and conservation organizations, to use all
7 practicable means and measures, including financial and tech-
8 nical assistance, in a manner calculated to foster and pro-
9 mote the general welfare, to create and maintain conditions
10 under which man and nature can exist in productive har-
11 mony, and fulfill the social, economic, and other require-
12 ments of present and future generations of Americans.

13 “(b) The President shall transmit to the Congress
14 annually beginning June 30, 1970, an Environmental Qual-
15 ity Report (hereinafter referred to as the ‘report’) which
16 shall set forth (1) the status and condition of the major
17 natural, manmade, or altered environmental classes of the
18 Nation, including, but not limited to, the air, the aquatic,
19 including marine, estuarine, and fresh water, and the ter-
20 restrial environment, including, but not limited to, the forest,
21 dryland, wetland, range, urban, suburban, and rural environ-
22 ment; and (2) current and foreseeable trends in manage-
23 ment and utilization of such environments and the effects
24 of those trends on the social, economic, and other require-
25 ments of the Nation.

1 “(c) (1) There is created in the Executive Office of
2 the President a Council on Environmental Quality (here-
3 after referred to as the “Council”). The Council shall be com-
4 posed of five members who shall be appointed by the Presi-
5 dent, by and with the advice and consent of the Senate, one
6 of whom the President shall designate as chairman, and
7 each of whom shall be a person who, as a result of his
8 training, experience, and attainments, is exceptionally qual-
9 ified to analyze and interpret environmental information of
10 all kinds, to appraise programs and activities of the Govern-
11 ment in the light of the policy set forth in subsection (a)
12 of this section, and to formulate and recommend national
13 policy to promote the improvement of our environmental
14 quality.

15 “(2) The Council may employ such officers and em-
16 ployees as may be necessary to carry out its functions under
17 this Act. In addition, the Council may employ and fix the
18 compensation of such experts and consultants as may be
19 necessary for the carrying out of its functions under this
20 section, in accordance with section 3109 of title 5, United
21 States Code (but without regard to the last sentence
22 thereof).

23 “(3) It shall be the duty and function of the Council—

24 “(A) to assist and advise the President in the prep-
25 aration of the Environmental Quality Report;

1 “(B) to gather timely and authoritative informa-
2 tion concerning the conditions and trends in environ-
3 mental qualities both current and prospective, to analyze
4 and interpret such information for the purpose of deter-
5 mining whether such conditions and trends are inter-
6 fering, or are likely to interfere, with the achievement
7 of the policy set forth in subsection (a) of this section,
8 and to compile and submit to the President studies
9 relating to such conditions and trends;

10 “(C) to appraise the various programs and activi-
11 ties of the Federal Government in the light of the
12 policy set forth in subsection (a) of this section for
13 the purpose of determining the extent to which such
14 programs and activities are contributing to the achieve-
15 ment of such policy, and to make recommendations to
16 the President with respect thereto;

17 “(D) to develop and recommend to the President
18 national policies to foster and promote the improve-
19 ment of environmental quality to meet social, economic,
20 and other requirements of the Nation; and

21 “(E) to make and furnish such studies, reports
22 thereon, and recommendations with respect to matters
23 of policy and legislation as the President may request.

24 “(4) The Council shall make an annual report to the
25 President in May of each year.

1 “(5) In exercising its powers, functions, and duties
2 under this section—

3 “(A) the Council shall consult with such repre-
4 sentatives of science, industry, agriculture, labor, con-
5 servation, organizations, State and local governments,
6 and other groups, as it deems advisable; and

7 “(B) the Council shall, to the fullest extent pos-
8 sible, utilize the services, facilities, and information
9 (including statistical information) of public and private
10 agencies and organizations, and individuals, in order
11 that duplication of effort and expense may be avoided.”

12 SEC. 2. (a) Section 5313 of title 5, United States Code,
13 is amended by adding at the end thereof the following:

14 “(20) Chairman, Council ~~of~~ *on* Environmental
15 Quality.”

16 (b) Section 5315 of title 5, United States Code, is
17 amended by adding, at the end thereof, the following:

18 “(92) Members, Council on Environmental Qual-
19 ity.”

A BILL

To amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

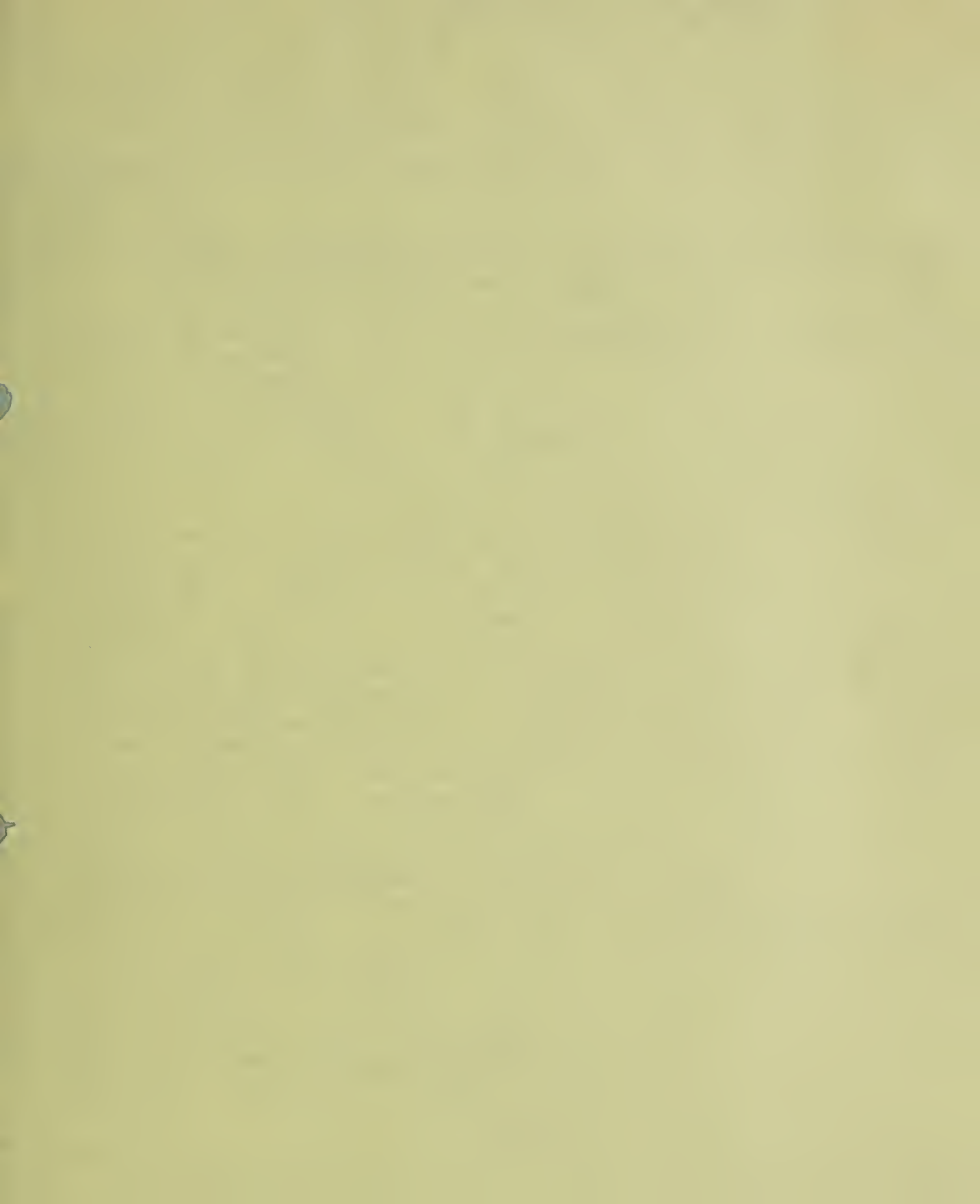
By Mr. DINGELL, Mr. LENNON, Mr. PELLY, Mr. DOWNING, Mr. KEITH, Mr. KARTH, Mr. DELLENBACK, Mr. ROGERS of Florida, Mr. POLLOCK, Mr. HANNA, Mr. GOODLING, Mr. LEGGETT, Mr. McCLOSKEY, Mr. ANNUNZIO, Mr. FREY, and Mr. BIAGGI

JULY 1, 1969

Referred to the Committee on Merchant Marine and Fisheries

JULY 11, 1969

Reported with an amendment, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed



July 19, 1970

9. RECREATION. Sen. Yarborough inserted a Wimodausis Club, Sterling, Tex., resolution endorsing a 100,000-acre Big Thicket National Park. pp. S9294-5
10. POLLUTION. Sen. Proxmire asked for a National commitment to lick pollution. pp. S8286-7
11. PESTICIDES. Sen. Nelson inserted an editorial criticizing the Department's pesticide regulation activities. p. S8290
12. FOREIGN TRADE. Sen. Javits expressed concern about the need to increase U. S. exports and inserted an article, "Treasury May Allow Exporters Cost Break." pp. S8293-6
13. ADJOURNED until Tues., July 22. p. S8327

HOUSE - July 21

14. CHILD NUTRITION. Passed, 352-5, under suspension of the rules H. R. 11651, to amend the National School Lunch Act to provide funds and authorities to the Department of Agriculture for the purpose of providing free or reduced-price meals to needy children not now being reached. Rep. Perkins said the bill would give "authority to the Secretary of Agriculture to use during the current fiscal year \$100 million from section 32 of the act of August 24, 1935...to improve the nutrition of needy children in schools, in day care facilities, and other organized activities in which children are concentrated away from their homes. These funds would be in addition to the funds that have already been appropriated by the House and Senate in the Labor-Health, Education and Welfare appropriation bill." pp. H6086-94
15. WILDLIFE. Passed under suspension of the rules H. R. 11363, to prevent the importation of endangered species of fish or wildlife into the U. S.; to prevent the interstate shipment of reptiles, amphibians, and other wildlife taken contrary to State law (pp. H6096-106). The bill was reported without amendment by the Merchant Marine and Fisheries Committee on July 18 during adjournment (H. Rept. 91-382) (p. H6119).
16. ENVIRONMENTAL QUALITY. The Merchant Marine and Fisheries Committee reported without amendment on July 19 during adjournment, H. R. 12549, to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality (H. Rept. 91-378). ~~p. H6119~~
(part 2)
17. APPROPRIATIONS. The Appropriations Committee reported H. R. 12964, the State, Justice, and Commerce, the Judiciary, and related agencies appropriation bill (H. Rept. 91-384). p. H6119
18. POPULATION MESSAGE. Received the President's population message (see item 1 in this digest) (H. Doc. 91-139) (pp. H6065-68). Rep. Ford commended the message (pp. H6068-69).

19. WATER RESOURCES. Passed as reported S. 38, to grant the consent of Congress to a compact between Wyo. and Neb. apportioning the surface waters and establishing a program of study of the ground waters of the upper Niobrara River and its tributaries. This bill will now be sent to the President. pp. H6081-83
20. RECREATION. Passed under suspension of the rules H. R. 11609, to authorize the construction of an entrance road at Great Smoky Mountains National Park in N. C. p. H6083
21. PRODUCTS SAFETY. Passed without amendment S. 1590, to amend the Act establishing the National Commission on Product Safety to extend the life of the Commission from November 20, 1969, to June 30, 1970. H. R. 10987, a similar bill, was passed under suspension of the rules then tabled. pp. H6094-96
22. SHOE IMPORTS. Rep. Keith inserted a Mass. Legislature resolution urging the enactment of legislation to protect the shoe industry from the "influx of foreign-made shoes." p. H6079
23. LIBRARIES; FEDERAL AID. Rep. Farbstein recommended "the restoration of the large cuts in Federal aid to education and libraries recommended by the Nixon administration" and inserted supporting material. pp. H6111-12
24. LEGISLATIVE PROGRAM. The "Daily Digest" states that on Tues. the House will consider the Interior appropriation bill. p. D651

EXTENSION OF REMARKS

25. INDIAN AFFAIRS. Rep. Fraser inserted a position paper endorsing the National Council on Indian Opportunity. pp. E6109-10
26. TEXTILE IMPORTS. Rep. Philbin inserted an article, "Quotas Loom: Textile Imports Challenge Nixon." pp. E6120-1
27. SUBSIDY PAYMENTS. Rep. Conte inserted his testimony before the H. Agriculture Committee "in support of a proposal to place a ceiling on farm subsidy payment as part of any long-term farm legislation." pp. E6121-3
Rep. Skubitz inserted a constituent's letter suggesting doing away with farm subsidy payments and allowing bonafide farm operators to deduct 28% of income tax off tax due at date of payment. p. E6123
28. POPULATION. Rep. McCloskey inserted former Sen. Gruening's statement expressing "deep immediate concern" that officials in AID "have not given genuine support and force to population programs." pp. E6125-7
Rep. Rarick inserted an article, "Nixon Population Plan Stirs Both Praise, Doubt." p. E6135

COUNCIL ON ENVIRONMENTAL QUALITY

JULY 19, 1969.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. GARMATZ, from the Committee on Merchant Marine and Fisheries, submitted the following

SUPPLEMENTAL REPORT

[To accompany H.R. 12549]

Since the filing of Report No. 91-378 on July 11, 1969, to accompany H.R. 12549, it has been noted that the report mentioned does not accurately show changes in existing law, as required in clause 3 of rule XIII of the Rules of the House of Representatives. The House, at the request of Mr. Dingell on July 17, 1969, gave the committee permission to file a supplemental report.

In compliance with the rule mentioned, therefore, the provisions of existing law proposed to be changed by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in *italic*, existing law in which no change is proposed is shown in roman):

FISH AND WILDLIFE COORDINATION ACT

Act of March 10, 1934, as Amended (48 Stat. 401; 16 U.S.C. 661-666c)

For the purpose of recognizing the vital contribution of our wildlife resources to the Nation, the increasing public interest and significance thereof due to expansion of our national economy and other factors, and to provide that wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation for the purposes of this Act in the United States, its Territories and possessions, the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife,

resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of this Act; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of this Act.

SEC. 2. (a) Except as hereafter stated in subsection (b) of this section, whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency first shall consult with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.

(b) In furtherance of such purposes, the reports and recommendations of the Secretary of the Interior on the wildlife aspects of such projects, and any report of the head of the State agency exercising administration over the wildlife resources of the State, based on surveys and investigations conducted by the United States Fish and Wildlife Service and such State agency for the purpose of determining the possible damage to wildlife resources and for the purpose of determining means and measures that should be adopted to prevent the loss of or damage to such wildlife resources, as well as to provide concurrently for the development and improvement of such resources, shall be made an integral part of any report prepared or submitted by any agency of the Federal Government responsible for engineering surveys and construction of such projects when such reports are presented to the Congress or to any agency or person having the authority or the power, by administrative action or otherwise, (1) to authorize the construction of water-resource development projects or (2) to approve a report on the modification or supplementation of plans for previously authorized projects, to which this Act applies. Recommendations of the Secretary of the Interior shall be as specific as is practicable with respect to features recommended for wildlife conservation and development, lands to be utilized or acquired for such purposes, the results expected, and shall describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages. The reporting officers in project reports of the Federal agencies shall give full consideration to the report and recommendations of the Secretary of the Interior and to any report of the State agency on the wildlife aspects of such projects, and the project plan shall include such justifiable means and

measures for wildlife purposes as the reporting agency finds should be adopted to obtain maximum overall project benefits.

(c) Federal agencies authorized to construct or operate water-control projects are hereby authorized to modify or add to the structures and operations of such projects, the construction of which has not been substantially completed on the date of enactment of the Fish and Wildlife Coordination Act, and to acquire lands in accordance with section 3 of this Act, in order to accommodate the means and measures for such conservation of wildlife resources as an integral part of such projects: *Provided*, That for projects authorized by a specific Act of Congress before the date of enactment of the Fish and Wildlife Coordination Act (1) such modification or land acquisition shall be compatible with the purposes for which the project was authorized; (2) the cost of such modifications or land acquisition, as means and measures to prevent loss of and damage to wildlife resources to the extent justifiable, shall be an integral part of the cost of such projects; and (3) the cost of such modifications or land acquisition for the development or improvement of wildlife resources may be included to the extent justifiable, and an appropriate share of the cost of any project may be allocated for this purpose with a finding as to the part of such allocated cost, if any, to be reimbursed by non-Federal interests.

(d) The cost of planning for and the construction or installation and maintenance of such means and measures adopted to carry out the conservation purposes of this section shall constitute an integral part of the cost of such projects: *Provided*, That such cost attributable to the development and improvement of wildlife shall not extend beyond that necessary for (1) land acquisition, (2) facilities as specifically recommended in water resource project reports, (3) modification of the project, and (4) modification of project operations, but shall not include the operation of wildlife facilities.

(e) In the case of construction by a Federal agency, that agency is authorized to transfer to the United States Fish and Wildlife Service, out of appropriations or other funds made available for investigations, engineering, or construction, such funds as may be necessary to conduct all or part of the investigations required to carry out the purposes of this section.

(f) In addition to other requirements, there shall be included in any report submitted to Congress supporting a recommendation for authorization of any new project for the control or use of water as described herein (including any new division of such project or new supplemental works on such project) an estimation of the wildlife benefits or losses to be derived therefrom including benefits to be derived from measures recommended specifically for the development and improvement of wildlife resources, the cost of providing wildlife benefits (including the cost of additional facilities to be installed or lands to be acquired specifically for that particular phase of wildlife conservation relating to the development and improvement of wildlife), the part of the cost of joint-use facilities allocated to wildlife, and the part of such costs, if any, to be reimbursed by non-Federal interests.

(g) The provisions of this section shall be applicable with respect to any project for the control or use of water as prescribed herein,

or any unit of such project authorized before or after the date of enactment of the Fish and Wildlife Coordination Act for planning or construction; but shall not be applicable to any project or unit thereof authorized before the date of enactment of the Fish and Wildlife Coordination Act if the construction of the particular project or unit thereof has been substantially completed. A project or unit thereof shall be considered to be substantially completed when sixty percent or more of the estimated construction cost has been obligated for expenditure.

(h) The provisions of this Act shall not be applicable to those projects for the impoundment of water where the maximum surface area of such impoundments is less than ten acres, nor to activities for or in connection with programs primarily for land management and use carried out by Federal agencies with respect to Federal lands under their jurisdiction.

SEC. 3. (a) Subject to the exceptions prescribed in section 2 (h) of this Act, whenever the waters of any stream or other body of water are impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, adequate provision, consistent with the primary purposes of such impoundment, diversion, or other control, shall be made for the use thereof, together with any areas of land, water, or interests therein, acquired or administered by a Federal agency in connection therewith, for the conservation, maintenance, and management of wildlife resources thereof, and its habitat thereon, including the development and improvement of such wildlife resources pursuant to the provisions of section 2 of this Act.

(b) The use of such waters, land, or interests therein for wildlife conservation purposes shall be in accordance with general plans approved jointly (1) by the head of the particular department or agency exercising primary administration in each instance, (2) by the Secretary of the Interior, and (3) by the head of the agency exercising the administration of the wildlife resources of the particular State wherein the waters and areas lie. Such waters and other interests shall be made available, without cost for administration, by such State agency, if the management of the properties relate to the conservation of wildlife other than migratory birds, or by the Secretary of the Interior, for administration in such manner as he may deem advisable, where the particular properties have value in carrying out the national migratory bird management program: *Provided*, That nothing in this section shall be construed as affecting the authority of the Secretary of Agriculture to cooperate with the States or in making lands available to the States with respect to the management of wildlife and wildlife habitat on lands administered by him.

(c) When consistent with the purposes of this Act and the reports and findings of the Secretary of the Interior prepared in accordance with section 2, land, waters, and interests therein may be acquired by Federal construction agencies for the wildlife conservation and development purposes of this Act in connection with a project as reasonably needed to preserve and assure for the public benefit the wildlife potentials of the particular project area: *Provided*, That before properties are acquired for this purpose, the probable extent

of such acquisition shall be set forth, along with other data necessary for project authorization, in a report submitted to the Congress, or in the case of a project previously authorized, no such properties shall be acquired unless specifically authorized by Congress, if specific authority for such acquisition is recommended by the construction agency.

(d) Properties acquired for the purposes of this section shall continue to be used for such purposes, and shall not become the subject of exchange or other transactions if such exchange or other transaction would defeat the initial purpose of their acquisition.

(e) Federal lands acquired or withdrawn for Federal water-resource purposes and made available to the States or to the Secretary of the Interior for wildlife management purposes, shall be made available for such purposes in accordance with this Act, notwithstanding other provisions of law.

(f) Any lands acquired pursuant to this section by any Federal agency within the exterior boundaries of a national forest shall, upon acquisition, be added to and become national forest lands, and shall be administered as a part of the forest within which they are situated, subject to all laws applicable to lands acquired under the provisions of the Act of March 1, 1911 (36 Stat. 961), unless such lands are acquired to carry out the National Migratory Bird Management Program.

SEC. 4. Such areas as are made available to the Secretary of the Interior for the purposes of this Act, pursuant to sections 1 and 3 or pursuant to any other authorization, shall be administered by him directly or in accordance with cooperative agreements entered into pursuant to the provisions of the first section of this Act and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, as may be adopted by the Secretary in accordance with general plans approved jointly by the Secretary of the Interior and the head of the department or agency exercising primary administration of such areas: *Provided*, That such rules and regulations shall not be inconsistent with the laws for the protection of fish and game of the States in which such area is situated (16 U. S. C., sec. 664): *Provided further*, That lands having value to the National Migratory Bird Management Program may, pursuant to general plans, be made available without cost directly to the State agency having control over wildlife resources, if it is jointly determined by the Secretary of the Interior and such State agency that this would be in the public interest: *And provided further*, That the Secretary of the Interior shall have the right to assume the management and administration of such lands in behalf of the National Migratory Bird Management Program if the Secretary finds that the State agency has withdrawn from or otherwise relinquished such management and administration.

Sec. 5. The Secretary of the Interior, through the Fish and Wildlife Service and the Bureau of Mines, is authorized to make such investigations as he deems necessary to determine the effects of domestic sewage, mine, petroleum, and industrial wastes, erosion silt, and other polluting substances on wildlife, and to make reports to the Congress concerning such investigations and of recommenda-

tions for alleviating dangerous and undesirable effects of such pollution. These investigations shall include (1) the determination of standards of water quality for the maintenance of wildlife; (2) the study of methods of abating and preventing pollution, including methods for the recovery of useful or marketable products and byproducts of wastes; and (3) the collation and distribution of data on the progress and results of such investigations for the use of Federal, State, municipal, and private agencies, individuals, organizations, or enterprises.

SEC. 5A. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, both living and nonliving, and the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) The President shall transmit to the Congress annually beginning June 30, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

(c)(1) There is created in the Executive Office of the President a Council on Environmental Quality (hereafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate, one of whom the President shall designate as chairman, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise programs and activities of the Government in the light of the policy set forth in subsection (a) of this section, and to formulate and recommend national policy to promote the improvement of our environmental quality.

(2) The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this section, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

(3) It shall be the duty and function of the Council—

(A) to assist and advise the President in the preparation of the Environmental Quality Report;

(B) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and

prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in subsection (a) of this section, and to compile and submit to the President studies relating to such conditions and trends;

(C) to appraise the various programs and activities of the Federal Government in the light of the policy set forth in subsection (a) of this section for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(D) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet social, economic, and other requirements of the Nation; and

(E) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

(4) The Council shall make an annual report to the President in May of each year.

(5) In exercising its powers, functions, and duties under this section—

(A) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, organizations, State and local governments, and other groups, as it deems advisable; and

(B) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided.

[SEC. 5A.] SEC. 5B. In the management of existing facilities (including locks, dams, and pools) in the Mississippi River between Rock Island, Illinois, and Minneapolis, Minnesota, administered by the United States Corps of Engineers of the Department of the Army, that Department is hereby directed to give full consideration and recognition to the needs of fish and other wildlife resources and their habitat dependent on such waters, without increasing additional liability to the Government, and, to the maximum extent possible without causing damage to levee and drainage districts, adjacent railroads and highways, farm lands, and dam structures, shall generally operate and maintain pool levels as though navigation was carried on throughout the year.

SEC. 6. There is authorized to be appropriated from time to time, out of any money in the Treasury not otherwise appropriated, such amounts as may be necessary to carry out the provisions of this Act and regulations made pursuant thereto, including the construction of such facilities, buildings, and other improvements necessary for economical administration of areas made available to the Secretary of the Interior under this Act, and the employment in the city of Washington and elsewhere of such persons and means as the Secretary of the Interior may deem necessary for such purposes.

SEC. 7. Any person who shall violate any rule or regulation promulgated in accordance with this Act shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than \$500 or imprisoned for not more than one year, or both.

SEC. 8. The terms "wildlife" and "wildlife resources" as used herein include birds, fishes, mammals, and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

SEC. 9. The provisions of this Act shall not apply to the Tennessee Valley Authority.

SECTION 5313 OF TITLE 5, UNITED STATES CODE

§ 5313. Positions at level II

Level II of the Executive Schedule applies to the following positions, for which the annual rate of basic pay is \$42,500:

- (1) Deputy Secretary of Defense.
- (2) Under Secretary of State.
- (3) Administrator, Agency for International Development.
- (4) Administrator of the National Aeronautics and Space Administration.
- (5) Administrator of Veterans' Affairs.
- (6) Repealed. Pub. L. 90-83. § 1(13), Sept. 11, 1967, 81 Stat. 198.
- (7) Under Secretary of Transportation.
- (8) Chairman, Atomic Energy Commission.
- (9) Chairman, Council of Economic Advisers.
- (10) Chairman, Board of Governors of the Federal Reserve System.
- (11) Director of the Bureau of the Budget.
- (12) Director of the Office of Science and Technology.
- (13) Director of the United States Arms Control and Disarmament Agency.
- (14) Director of the United States Information Agency.
- (15) Director of Central Intelligence.
- (16) Secretary of the Air Force.
- (17) Secretary of the Army.
- (18) Secretary of the Navy.
- (19) Administrator, Federal Aviation Administration.
- (19) Director of the National Science Foundation.
- (20) *Chairman, Council on Environmental Quality.*

SECTION 5315 OF TITLE 5, UNITED STATES CODE

§ 5315. Positions at level IV

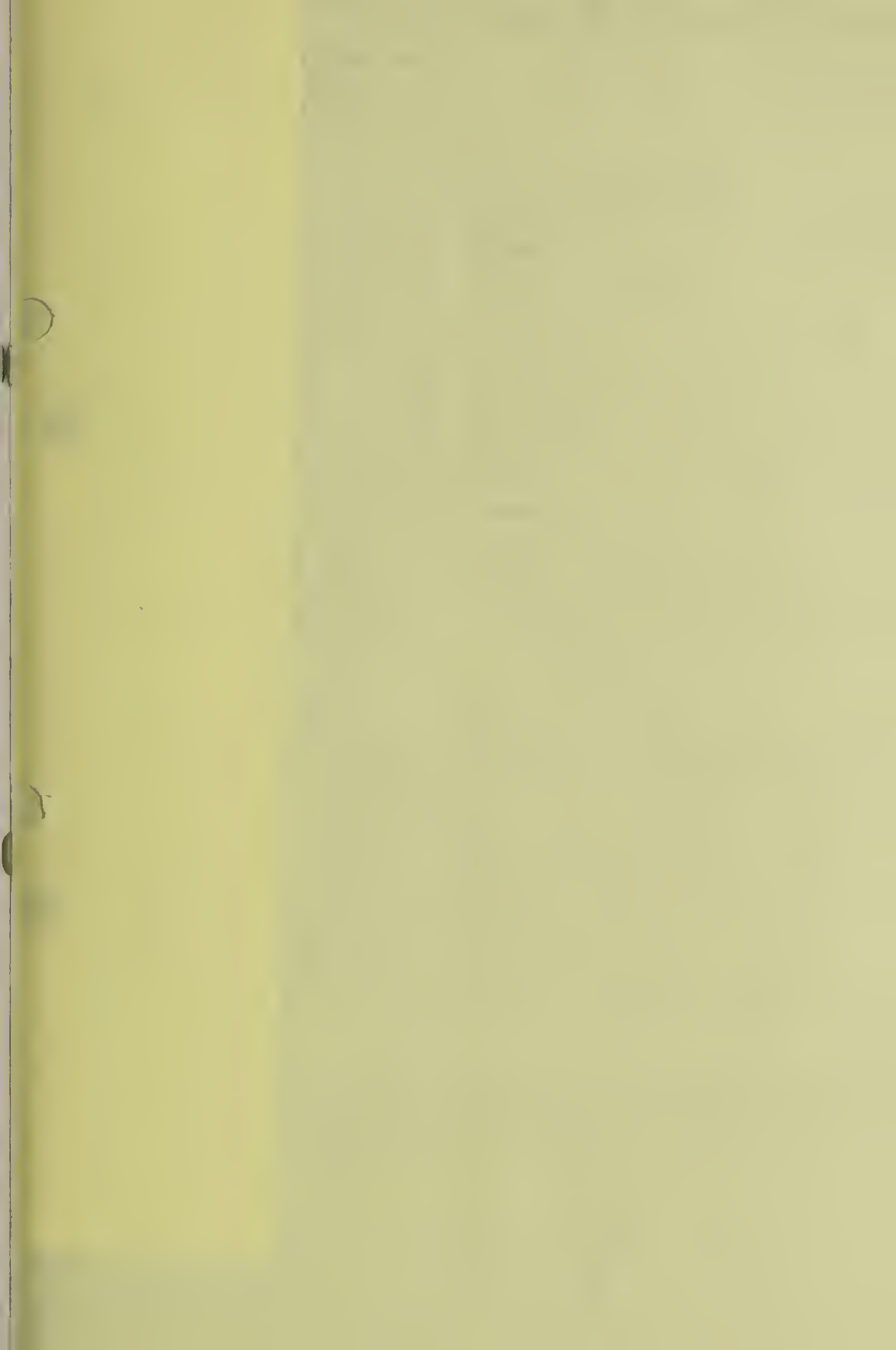
Level IV of the Executive Schedule applies to the following positions, for which the annual rate of basic pay is \$38,000:

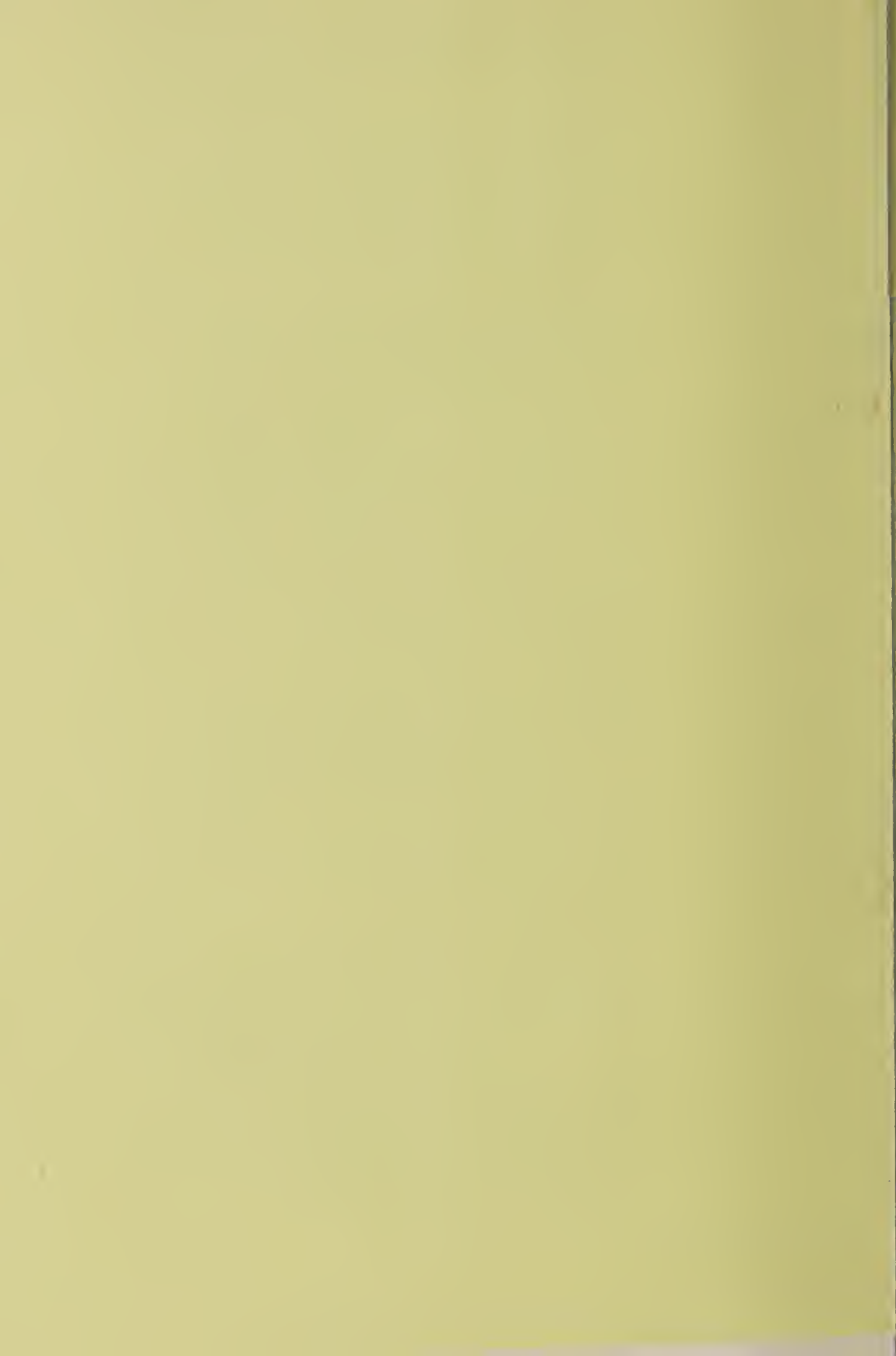
- (1) Administrator, Bureau of Security and Consular Affairs, Department of State.
- (2) Repealed. Pub. L. 89-670, § 10(e), Oct. 15, 1966, 80 Stat. 948.
- (3) Deputy Administrator of General Services.
- (4) Associate Administrator of the National Aeronautics and Space Administration.
- (5) Assistant Administrators, Agency for International Development (6).

- (6) Regional Assistant Administrators, Agency for International Development (4).
- (7) Under Secretary of the Air Force.
- (8) Under Secretary of the Army.
- (9) Under Secretary of the Navy.
- (10) Deputy Under Secretaries of State (2).
- (11) Assistant Secretaries of Agriculture (3).
- (12) Assistant Secretaries of Commerce (5).
- (13) Assistant Secretaries of Defense (7).
- (14) Assistant Secretaries of the Air Force (4).
- (15) Assistant Secretaries of the Army (4).
- (16) Assistant Secretaries of the Navy (4).
- (17) Assistant Secretaries of Health, Education, and Welfare (5).
- (18) Assistant Secretaries of the Interior (5).
- (19) Assistant Attorneys General (9).
- (20) Assistant Secretaries of Labor (4).
- (21) Assistant Postmasters General (6).
- (22) Assistant Secretaries of State (11).
- (23) Assistant Secretaries of the Treasury (4).
- (24) Chairman of the United States Tariff Commission.
- (25)–(28) Repealed. Pub.L. 90–83, § 1(15)(E), Sept. 11, 1967, 81 Stat. 198.
- (29) Director of Civil Defense, Department of the Army.
- (30) Repealed. Pub.L. 90–83, § 1(15)(E), Sept. 11, 1967, 81 Stat. 198.
- (31) Deputy Chief Medical Director in the Department of Medicine and Surgery, Veterans' Administration.
- (32) Deputy Director of the Office of Emergency Planning.
- (33) Deputy Director of the Office of Science and Technology.
- (34) Deputy Director of the Peace Corps.
- (35) Deputy Director of the United States Arms Control and Disarmament Agency.
- (36) Deputy Director of the United States Information Agency.
- (37) Assistant Directors of the Bureau of the Budget (3).
- (38) General Counsel of the Department of Agriculture.
- (39) General Counsel of the Department of Commerce.
- (40) General Counsel of the Department of Defense.
- (41) General Counsel of the Department of Health, Education, and Welfare.
- (42) Solicitor of the Department of the Interior.
- (43) Solicitor of the Department of Labor.
- (44) General Counsel of the National Labor Relations Board.
- (45) General Counsel of the Post Office Department.
- (46) Counselor of the Department of State.
- (47) Legal Adviser of the Department of State.
- (48) General Counsel of the Department of the Treasury.
- (49) First Vice President of the Export-Import Bank of Washington.
- (50) General Manager of the Atomic Energy Commission.
- (51) Governor of the Farm Credit Administration.
- (52) Inspector General, Foreign Assistance.
- (53) Deputy Inspector General, Foreign Assistance.

- (54) Members, Civil Aeronautics Board.
- (55) Members, Council of Economic Advisers.
- (56) Members, Board of Directors of the Export-Import Bank of Washington.
- (57) Members, Federal Communications Commission.
- (58) Member, Board of Directors of the Federal Deposit Insurance Corporation.
- (59) Members, Federal Home Loan Bank Board.
- (60) Members, Federal Power Commission.
- (61) Members, Federal Trade Commission.
- (62) Members, Interstate Commerce Commission.
- (63) Members, National Labor Relations Board.
- (64) Members, Securities and Exchange Commission.
- (65) Members, Board of Directors of the Tennessee Valley Authority.
- (66) Members, United States Civil Service Commission.
- (67) Members, Federal Maritime Commission.
- (68) Members, National Mediation Board.
- (69) Members, Railroad Retirement Board.
- (70) Director of Selective Service.
- (71) Associate Director of the Federal Bureau of Investigation, Department of Justice.
- (72) Chairman, Equal Employment Opportunity Commission.
- (73) Chief of Protocol, Department of State.
- (74) Director, Bureau of Intelligence and Research, Department of State.
- (75) Director, Community Relations Service.
- (76) United States Attorney for the District of Columbia.
- (77) United States Attorney for the Southern District of New York.
- (78) Members, National Transportation Safety Board.
- (79) General Counsel, Department of Transportation.
- (80) Deputy Administrator, Federal Aviation Administration.
- (81) Assistant Secretaries of Transportation (4).
- (82) Director of Public Roads.
- (83) Administrator of the St. Lawrence Seaway Development Corporation.
- (84) Assistant Secretary for Science, Smithsonian Institution.
- (85) Assistant Secretary for History and Art, Smithsonian Institution.
- (86) Deputy Administrator of the Small Business Administration.
- (87) Assistant Secretaries of Housing and Urban Development (6).
- (88) General Counsel of the Department of Housing and Urban Development.
- (89) Commissioner of Interama.
- (90) Administrator of Law Enforcement Assistance.
- (91) Federal Insurance Administrator, Department of Housing and Urban Development.
- (92) *Members, Council on Environmental Quality.*







DIGEST of Congressional Proceedings

OF INTEREST TO THE DEPARTMENT OF AGRICULTURE

OFFICE OF BUDGET AND FINANCE
(FOR INFORMATION ONLY;
NOT TO BE QUOTED OR CITED)

Issued Sept. 17, 1969
For actions of Sept. 16, 1969
91st-1st No. 148

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HIGHLIGHTS: House Rules Committee cleared bills to designate Desolation Wilderness, establish Council on Environmental Quality and census information. Sen. Curtis introduced and discussed bill to require submission of budget on an administrative budget.

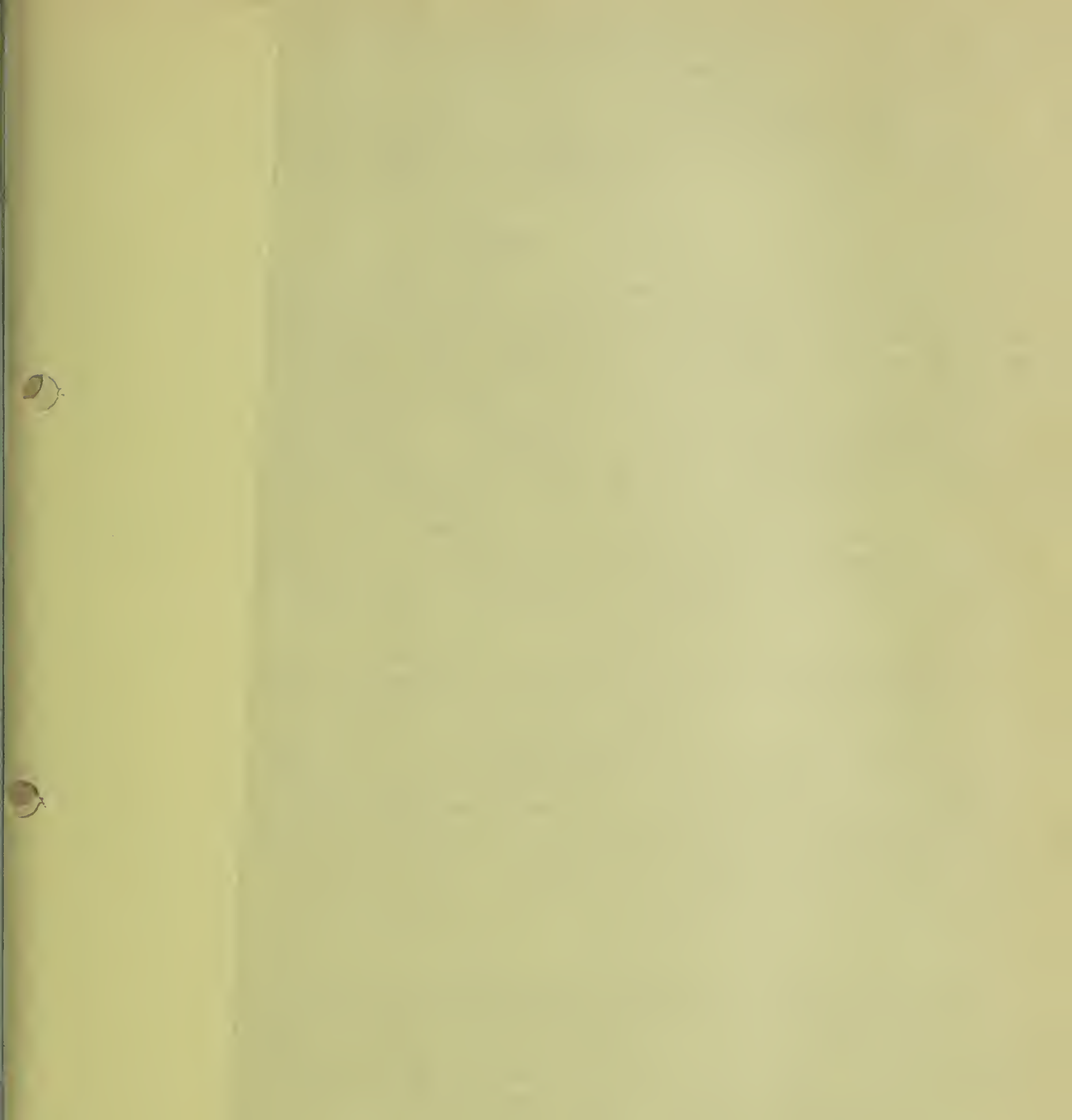
HOUSE

1. WILDERNESS. The Rules Committee reported a resolution for the consideration of H. R. 850, to designate the Desolation Wilderness, Eldorado National Forest, Cal. p. H7977
2. ENVIRONMENTAL QUALITY. The Rules Committee reported a resolution for the consideration of H. R. 12549, to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality. p. H7977
3. PRIVACY; INFORMATION. The Rules Committee reported a resolution for the consideration of H. R. 12884, to assure confidentiality of census information. p. H7977
4. EXPORTS. The Banking and Currency Committee voted to report (but did not actually report) H. R. 4293, amended, to provide for continuation of authority for regulation of exports. p. D815

5. DISASTER RELIEF. Rep. Conte extended congratulations to Berkshire County, Mass., residents who took part in a telethon to raise money to aid victims of Hurricane Camille. pp. H7939-40
6. SCIENCE. Reps. McCarthy and Podell criticized a proposed cut in science funding. pp. H7962-4, H7972
On Sept. 15 the Science and Astronautics Committee reported without amendment H. R. 11542, to promote the advancement of science and the education of scientists through a national program of institutional grants to the colleges and universities of the United States (H. Rept. 91-490). p. H7977
7. FLOOD INSURANCE. Rep. St Germain announced his intention to offer an amendment when the Banking and Currency Committee meets in markup session on pending housing legislation which will make flood insurance promptly available throughout the country. p. H7975
8. TRADEMARKS. Both Houses received from Commerce a proposed bill to amend the act entitled "An act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of international conventions; to the Judiciary Committees. pp. S10592, H7977.

SENATE

9. TAX REFORM. Sen. McGovern submitted an amendment to the tax reform bill which would remove certain restrictions placed on cooperative associations by the House. p. S10613
Sen. Long inserted testimony given the Finance Committee concerning features of the tax reform bill. pp. S10621-23
10. HORSES. Sen. Tydings condemned the practice of "soring" Tennessee Walking horses and inserted an article supporting his position. pp S10618-20
11. EDUCATION. Sen. Murphy inserted articles emphasizing support for S. 2625, the urban and rural education bill which would provide grants to local educational agencies. pp. S10624-25
12. SELECTIVE SERVICE. Sen. Moss commended the Administration's plans to reform "the outmoded and grossly unfair draft system of this Nation," and chided the House for not scheduling hearings on draft reforms. p. S10625
13. FARM INCOME. Sen. Talmadge deplored the inequity of farmers' income in relation to the income of non-farm segments of the economy, and he inserted an article supporting his position. p. S10627
14. PESTICIDES. Sen. Nelson deplored the effects of pesticides on waterways in New York and inserted an article depicting the dangers of pesticides. pp. S10628-30



House

Sept. 23, 1969

-4-

20. **POVERTY.** Sen. Yarborough inserted a newspaper article critical of the administration of the poverty program "Rumsfeld Cuts Aid-Gets Luxuries," and said the article is self-explanatory, and calls for an explanation. pp. S11131-2
21. **LEGISLATIVE PROGRAM.** Sen. Mansfield said that the Golden Eagle proposed legislation will be considered today, Sept. 24. (p. S11169). The "Daily Digest" states that the "Senate then probably will return to its unfinished business, S. 2547, food stamps." p. D847

HOUSE

22. **ENVIRONMENTAL QUALITY.** Passed, 372-15, with amendments, H. R. 12549, to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality (pp. H8263-86). Subsequently this passage was vacated; S. 1075, a similar bill, was passed in lieu after being amended to contain the language of H. R. 12549 as passed. Conferees were appointed (p. H8286). Agreed to H. Res. 544, providing for consideration of the bill (pp. H8263).
Rep. Bevill discussed our environment in relation to population growth, and he contended that we still maintain the power to reshape our environment and make it more useful and safe for all Americans. pp. H8313-14
23. **PROCUREMENT.** Passed without amendment H. R. 474, to establish a Commission on Government Procurement (pp. H8286-99). Amendments by Rep. Bingham to provide for a bipartisan commission were rejected (pp. H8296-8). Agreed to H. Res. 534 to provide for consideration of the bill (pp. H8286-7).
24. **CLAIMS.** Both Houses received from this Department a report on claims settled in fiscal year 1969 under the Military Personnel and Civilian Employees' Claims Act of 1964, as amended. pp. H8363, S11119
25. **REVENUE SHARING.** Both Houses received from the Treasury a draft of proposed legislation to restore balance in the Federal form of Government in the United States; to provide both the encouragement and resources for State and local government officials to exercise leadership in solving their own problems; to achieve a better allocation of total public resources; and to provide for the sharing with State and local governments of a portion of the tax revenue received by the United States; to House Ways and Means and Senate Finance Committees. pp. H8363, S11118
26. **SELECTIVE SERVICE.** Received from the Selective Service a proposed bill to amend the Military Selective Service Act of 1967 modifying the system of selecting persons for induction into the Armed Forces; to Armed Services Committee. p. H8363
Rep. Ryan criticized the Administration's recent troop reductions and draft cut-backs, and characterized these moves as part of the Administration's domestic pacification program. pp. H8261-2
Rep. Ford stated that because of Congressional inactivity, the Administration will undertake draft-reform measures by means of an Executive Order. p. H8262
27. **TAX REFORM.** Rep. Gibbons expressed doubts that any meaningful tax reform legislation would be passed this year. p. H8314

8. PROPERTY. The Government Operations Committee voted to report (but did not actually report S. 406, to permit rotation of certain property whenever its remaining storage or shelf life is too short to justify its retention (amended); and S. 2210, to amend the Federal Property and Administrative Services Act of 1949 so as to permit donations of surplus property to public museums. p. S848
9. PROCUREMENT. The Government Operations Committee voted to report (but did not actually report) S. 1707, establish a Commission on Government Operations. p. D848
10. POPULATION. The Government Operations Committee voted to report (but did not actually report) S. 2701, to establish a Commission on Population Growth and the American Future. p. S848
11. APPROPRIATIONS. The Government Operations Committee voted to report (but did not actually report) S. J. Res. 117, to authorize appropriations for expenses of the Office of Intergovernmental Relations. p. D848
12. EXPENDITURES. Sen. Hatfield spoke on what people in Oregon consider national spending priorities saying they do not understand special emphasis being placed on military procurement and curbs on public works and homebuilding. p. S11133
13. SUGAR. Received from GAO a report on the administration of sugar marketing quotas. p. S11118
14. REVENUE SHARING. Sen. Mathias said the Administration's proposed revenue-sharing plan holds enormous promise as a means of reducing fiscal **pressures** on State and local governments and discussed the problems **of** its implementation. p. S11134
15. PESTICIDES. Sen. Nelson discussed the results of research on the amount of **DDT** in milk and inserted an article "Mother's Milk Has DDT." p. 11135
16. CLEAN AIR. Sen. Nelson said that the air pollution problem is urgent and we need to be actively exploring every alternative to insure clean air in our environment, and that exhaust control systems are nothing more than stopgap measures. pp. S11135-6
17. SHOE IMPORTS. Sen. McIntyre announced the schedule for continued field hearings by the Small Business Subcommittee of the Senate Banking and Currency Committee on the problems facing small domestic shoe manufacturers. pp. S11123
18. RECREATION. Sen. Cranston inserted an editorial in support of his proposed legislation to complete Federal acquisition of the Point Reyes National Seashore. p. S11125
19. SELECTIVE SERVICE. Sen. Symington inserted the remarks of Secretary of Defense Laird on the NBC "Today Show" relative to the draft system. pp. S11127-8

tion growth on the national environment, and for other purposes;

H.R. 13337, to establish a Commission on Population Growth and the American Future, and

H.R. 13523, to establish a Commission on Population Growth and the American Future.

Also, Mr. Speaker, the Executive Communication No. 1000, a letter from the Director, Bureau of the Budget, Executive Office of the President, transmitting a draft of proposed legislation to establish a Commission on Population Growth and the American Future.

The SPEAKER. Without objection, it is so ordered.

There was no objection.

CORRECTION OF VOTE

Mr. DE LA GARZA. Mr. Speaker, on rollcall No. 177 on Thursday, September 18, I am recorded as voting "yea." I was not present during said vote because of official business.

Mr. Speaker, I ask unanimous consent that the permanent RECORD and Journal be corrected accordingly.

The SPEAKER. Without objection, it is so ordered.

There was no objection.

CORRECTION OF ROLLCALL

Mr. BURKE of Massachusetts. Mr. Speaker, on rollcall No. 180, today, I am recorded as absent. When my name was called, I answered "present." I ask unanimous consent that the permanent RECORD be corrected accordingly.

The SPEAKER. Without objection, it is so ordered.

There was no objection.

PERMISSION FOR COMMITTEE ON RULES TO FILE CERTAIN PRIVILEGED REPORTS

Mr. MATSUNAGA. Mr. Speaker, I ask unanimous consent that the Committee on Rules may have until midnight tonight to file certain privileged reports.

The SPEAKER. Without objection, it is so ordered.

There was no objection.

COMPOSITION OF COMMISSION FOR EXTENSION OF U.S. CAPITOL

Mr. FALLON. Mr. Speaker, I ask unanimous consent that the Committee on Public Works be discharged from further consideration of the bill (S. 1888) to change the composition of the Commission for Extension of the U.S. Capitol, and ask for its immediate consideration.

The Clerk read the title of the Senate bill.

The SPEAKER. Is there objection to the request of the gentleman from Maryland?

Mr. GROSS. Mr. Speaker, reserving the right to object, what is the meaning of this proposal?

Mr. FALLON. Mr. Speaker, will the gentleman yield?

Mr. GROSS. I yield to the gentleman from Maryland.

Mr. FALLON. The bill would add two members of the Commission for the Extension and Renovation of the Capitol. The Legislative Appropriation Act of 1959 created the Commission for the Extension of the U.S. Capitol and designated that it be composed of the President of the Senate, the Speaker of the House, the minority leader of the Senate, the majority leader of the House of Representatives, and the Architect. Under the composition of the Commission, both parties in the U.S. Senate are represented on the Commission only when the President of the Senate is a member of the majority party. As the Commission stands today, there is no member of the majority party of the Senate on the Commission. By increasing the membership of the Commission from five to seven members, the bill would change that, and it would designate the two additional members as the majority leader of the Senate and the majority leader of the House of Representatives to serve on the Commission of the U.S. Capitol.

Mr. GROSS. Has money been provided for the extension of the Capitol?

Mr. FALLON. This measure merely has to do with the Commission.

Mr. GROSS. Just the Commission for the Extension—in other words, the expansion of the west front of the Capitol.

Mr. FALLON. No. The measure would increase the Commission by the addition of two members. It has nothing to do with future legislation so far as the extension of the Capitol is concerned.

Mr. GROSS. Why are the additional members necessary in the absence of a final congressional decision as to whether there should be an expansion of the west front of the Capitol?

Mr. FALLON. This is a matter of representation on the Commission. As it stands now, the majority party in the Senate is not represented. By adding two members, we would add the majority leader of the Senate and the majority leader of the House. When and if the administration changes so that you would have a member of a different party who would act in that capacity, then the minority leader would become the member.

Mr. GROSS. Would the gentleman say that this proposal is designed to get support for the measure that was approved by the House last week to spend at least \$50 million—the Lord only knows how much—for the expansion of the west front of the Capitol? Is it intended for the purpose of securing more support for that expenditure?

Mr. FALLON. No, this bill is designed to make the Commission equally representative of both parties.

Mr. GERALD R. FORD. Mr. Speaker, will the gentleman from Iowa yield?

Mr. GROSS. I yield to the minority leader.

Mr. GERALD R. FORD. The present composition of the Commission is the Speaker, as Chairman, the Vice President, the minority leader of the Senate—that was Senator Dirksen—myself, and the Architect of the Capitol. Under the

odd situation that developed, as a consequence of the last election, there is unequal balance between the Democratic Party and the Republican Party on the present Commission. By doing what the gentleman from Maryland has requested, we would equalize representation between the two parties on the Commission.

Mr. GROSS. Mr. Speaker, I thank both gentlemen for their explanations. I withdraw my reservation of objection.

The SPEAKER. Is there objection to the request of the gentleman from Maryland?

There was no objection.

The Clerk read the Senate bill, as follows:

S. 1888

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the paragraph entitled "Extension of the Capitol" under the heading "Capitol Buildings and Grounds" in the Legislative Appropriation Act, 1956 (69 Stat. 515), is amended by inserting after the words "the Speaker of the House of Representatives," and before the words "the minority leader of the Senate," the following: "the majority leader of the Senate, the majority leader of the House of Representatives,".

The Senate bill was ordered to be read a third time, was read the third time, and passed.

A motion to reconsider was laid on the table.

COUNCIL ON ENVIRONMENTAL QUALITY

Mr. MATSUNAGA. Mr. Speaker, by direction of the Committee on Rules, I call up House Resolution 544 and ask for its immediate consideration.

The Clerk read the resolution, as follows:

H. RES. 544

Resolved, That upon the adoption of this resolution it shall be in order to move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 12549) to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes. After general debate, which shall be confined to the bill and shall continue not to exceed one hour, to be equally divided and controlled by the chairman and ranking minority member of the Committee on Merchant Marine and Fisheries, the bill shall be read for amendment under the five-minute rule. At the conclusion of the consideration of the bill for amendment, the Committee shall rise and report the bill to the House with such amendments as may have been adopted, and the previous question shall be considered as ordered on the bill and amendments thereto to final passage without intervening motion except one motion to recommit. After the passage of H.R. 12549, it shall be in order in the House to take from the Speaker's table the bill S. 1075 and to move to strike out all after the enacting clause of said Senate bill and insert in lieu thereof of provisions contained in H.R. 12549 as passed by the House.

The SPEAKER. The gentleman from Hawaii is recognized for 1 hour.

Mr. MATSUNAGA. Mr. Speaker, I yield 30 minutes to the gentleman from Ohio (Mr. LATA) pending which I yield myself such time as I may consume.

Mr. Speaker, House Resolution 544 provides an open rule with 1 hour of general debate for the consideration of H.R. 12549 to amend the Fish and Wildlife Coordination Act to establish a Council on Environmental Quality. The resolution also provides that, after the passage of H.R. 12549, it shall be in order to take S. 1075 from the Speaker's table, move to strike all after the enacting clause and amend the Senate bill with the House-passed language.

The purpose of H.R. 12549 is to create a Council on Environmental Quality, consisting of five members appointed by the President, by and with the advice and consent of the Senate, one of whom the President shall designate as Chairman.

The Council may employ such officers and employees as necessary and may employ and fix compensation of such experts and consultants as necessary.

The duty and function of the Council shall be to assist the President in the preparation of an environmental quality report, which he shall transmit to the Congress annually beginning June 30, 1970; to gather, analyze, and interpret information concerning conditions and trends in environmental qualities; to appraise the various programs and activities of the Government in this area; to develop and recommend policies to promote improvement of environmental quality; to make and furnish studies and make recommendations thereon.

Cost of the legislation is estimated at approximately \$1 million per year. In view of the rapidly deteriorating environment of ours, Mr. Speaker, this cost must be considered an investment, rather than an added expense to the taxpayer.

Time is not on our side and unless we take this action today we will have failed in our responsibility as the trustees of the welfare of the people we represent in Congress.

Mr. Speaker, I urge the adoption of House Resolution 544 in order that H.R. 12549 may be considered.

Mr. Speaker, I yield now to the gentleman from Ohio (Mr. LATTA).

(Mr. LATTA asked and was given permission to revise and extend his remarks.)

Mr. LATTA. Mr. Speaker, I agree with all the statements just made by my friend, the gentleman from Hawaii, on this resolution.

I want to point out that the Rules Committee has had this resolution under consideration since July for the reason that there was a jurisdictional question which arose concerning a matter between the Committee on Merchant Marine and Fisheries and the Committee on Interior and Insular Affairs. It is our understanding now that the difficulties have been resolved and that, by an agreement between the two committees, when this matter goes to conference two members of the Committee on Interior and Insular Affairs will be on the conference committee.

Mr. Speaker, the purpose of the bill is to create a Council on Environmental Quality which shall have a broad and independent overview of current and long-term needs and programs to improve the quality of the national en-

vironment. The Council is to advise the President and, through him, the Congress on what steps should be taken to improve and upgrade the national environment.

The Council will be responsible directly to the President rather than to any governmental agency or body. It is to be composed of five members selected by the President, with the advice and consent of the Senate, one of whom the President shall designate as Chairman. All members of the Council are to be persons with expertise, training, and attainments which qualify them to analyze and interpret environmental information of all kinds and to formulate and recommend policies to improve the quality of our national environment.

The President is required to transmit to the Congress annually, beginning on June 30, 1970, an environmental quality report. The Council shall assist the President in the preparation of this report. It shall also carry on a continuing program of collecting and analyzing environmental information, conditions, and trends and shall interpret such information in order to advise the President in this field. The Council shall also evaluate existing Government programs and make recommendations thereon to the President. It shall make an annual report to the President in May of each year.

Testimony received by the committee indicates that in order to staff the Council to the needed degree approximately 55 professional employees and 20 to 30 clerical employees will be needed. Based upon these figures, it is estimated that the cost of this legislation would be \$1 million per year. The Chairman of the Council is to be paid \$30,000 per year and the four other members of the Council will receive \$27,000 per year. No operational funds are authorized in the bill.

There are no minority views. A number of departments and agencies have submitted reports on the legislation as originally introduced (H.R. 6750) which is very similar to the reported bill. Generally, they support the aims of the legislation but point out that the President, on May 29, by Executive Order 11472, established an Environmental Quality Council and a Citizens Advisory Committee to the Council with broad responsibilities for advising and assisting the President with respect to environmental quality matters. Several departments and agencies question whether this Presidential action does not do all that is necessary now.

Mr. Speaker, I have no objection to the granting of this rule, and I yield back the balance of my time.

Mr. MATSUNAGA. Mr. Speaker, I yield 5 minutes to the gentleman from Indiana (Mr. MADDEN).

(Mr. MADDEN asked and was given permission to revise and extend his remarks and to include a tabulation.)

(By unanimous consent, Mr. MADDEN was allowed to speak out of order.)

TAX REFORM, NOW—WATER AND AIR POLLUTION LEGISLATION, THIS SESSION

Mr. MADDEN. Mr. Speaker, I was startled to read in Saturday's Washing-

ton Post, the headline, "Nixon Aides Do Not Expect Tax Bill To Pass This Year." An Associated Press dispatch also quoted a prominent member of the Senate Finance Committee, that he "could not see action this year on the 'proposed revision' of the Nation's tax system."

Almost 7 weeks ago, after 4 months of hearings by the congressional tax writing House Ways and Means Committee, and also a week's debate on the floor of the House, the tax reform bill was passed. It has been juggled, postponed, and filibustered for weeks in the Finance Committee of the other body. Now we read that the White House seems to extend silent aid and comfort to the painstaking stalling and filibustering which the tax reform bill will undergo in the other body.

In this morning's mail I received 30 letters from my district, which has been the average daily mail I have been receiving, protesting the administration's recommendations that the promised appropriation of \$1 billion toward cleaning up water pollution should be cut to \$214 million. This proposed weakening of the battle to preserve the health of millions of Americans against the drinking of contaminated and occasionally poisonous water in the urban areas of the Nation is beyond belief. The message which I am receiving from citizens, not only from my own district, but other parts of Indiana and the Midwest, is that they feel that this cut will be a major setback to cities and States and all citizens in their fight against water pollution and an effort to preserve the health of millions.

A great number of Members of the House, including myself, are sponsoring a bill and working for legislation to restore the \$1 billion in the 1970 budget which was set up to support the Clean Water Restoration Act.

The House and Senate both must take the initiative to provide the necessary matching funds to aid the States and cities to purify the Nation's water supply in our rivers and lakes. Our Government must give full support to compel the mammoth industries to install the proper machinery to terminate air pollution in our congested urban areas.

It is no excuse for the Government or the Congress to protest lack of sufficient funds to combat this water and air pollution scourge on the present and future health of millions of American families. The tax reform legislation if enacted this year will provide an additional \$8 billion to amply supply funds for water and air pollution, education, housing, poverty, health, and so forth.

The tax reform bill, it appears now, is receiving the old legislative trick of postponement and stalling with the hope that public interest for tax reform will subside. The bill passed by the House is now apparently dormant for this session in the other body, judging from the Associated Press dispatches in the papers yesterday. The postponing of this tax reform bill until next session of Congress will mean that the Federal Treasury will not only suffer a loss of many billions of Federal tax dollars from large tax loop-holders, but it will afford a better opportunity for the continuation of the unnecessary 10-percent surtax for another year, running it into 1971.

A year ago last June I opposed and voted against the 10-percent surtax for the simple reason that had the Ways and Means Committee taken the tax reform bill up at that time and enacted the same a year ago, there would be no excuse whatsoever for the administration to extend the surtax and curtail needed money for air and water pollution, education, housing, poverty programs, health, and so forth. Now is the time for the American people to become aroused and notify their Senators and the executive department that money for these great domestic programs should not be curtailed, and insist that the President exercise his terrific power toward passing the tax reform bill which the House enacted almost 2 months ago. All segments of our economy should equally share the huge expenses to finance necessary Federal programs.

A number of Members of Congress and almost 90 percent of the wage and salary earning public have no comprehension of the stupendous amount of taxes our U.S. Treasury loses by reason of the fabulous, and in most cases fraudulent, tax loopholes which will be partially outlawed in the pending tax reform bill.

In the September edition of the CWA newspaper a breakdown of some of the major tax loopholes was set out estimating the 1968 revenue loss as a result of the major tax loopholes. I include the tabulation with my remarks.

1968 revenue loss as a result of major tax loopholes (estimated by U.S. Treasury)

[In millions]

| | |
|---|---------|
| Nontaxed interest on tax-free bonds— | \$1,800 |
| Depletion deductions (corporations included) ————— | 1,500 |
| Intangible drilling deductions (oil and gas) ————— | 750 |
| Travel and entertainment deductions (estimated excesses) ————— | 400 |
| The 50 percent of capital gains not reported on tax returns ————— | 5,000 |
| Capital gains that escape tax at death ————— | 2,000 |
| Unreported dividends and interest— | 1,000 |

Total loophole revenue loss in
1968 ————— 12,450

Mr. KYL. Mr. Speaker, will the gentleman yield?

Mr. MADDEN. Yes. I yield to the gentleman from Iowa.

Mr. KYL. Can the gentleman from Indiana tell us if the tax bill, as it left the House, calls for increased or decreased revenue for the Federal Government in toto?

Mr. MADDEN. If the loopholes are closed and not changed over in the other body, it will bring in several billion dollars, especially in the field of the oil depletion allowance, reducing it from 27½ percent down to 20 percent, when it should have been wiped out entirely. It is estimated that the oil depletion allowance alone, if that 27½ percent were wiped out, would bring in something like \$3 billion into the Treasury, including exemptions on imported oil, gas, and so forth.

Mr. KYL. Will the gentleman yield further?

Mr. MADDEN. I yield to the gentleman.

Mr. KYL. Is it not a fact that as the bill left the House there is a loss of revenue?

Mr. MADDEN. No, there is not a loss of revenue. There would be an increase in revenue. Just the 7½ percent reduction from the oil-depletion allowance would bring in over \$1 billion or more.

Mr. LATTA. Mr. Speaker, I had no requests for time on this side, and I yielded back my time. I would like to ask unanimous consent that my time be reinstated, as I do have a request.

The SPEAKER. Is there objection to the request of the gentleman from Ohio? There was no objection.

Mr. LATTA. Mr. Speaker, I yield 5 minutes to the gentleman from Iowa (Mr. GROSS).

(Mr. GROSS asked and was given permission to revise and extend his remarks.)

Mr. GROSS. Mr. Speaker, I was very much interested in the remarks of the gentleman from Indiana (Mr. MADDEN) with respect to water and air pollution. I have driven the Indiana Turnpike a good many times since I have had the honor to be a Member of this body, and going west on the Indiana Turnpike you are made aware many, many miles east of Gary, Ind., that you are approaching that city. I wonder what the State of Indiana or the city of Gary, Ind., has done or proposes to do about the terrible pollution that fills the air over Gary, Ind., and east of it when the wind is in the west.

Also, traveling by plane to Chicago, and crossing the lower end of Lake Michigan, there is no trouble at all in locating the pollution of Lake Michigan as supplied in part by the steel mills of Gary, and other industries.

Mr. MADDEN. Mr. Speaker, will the gentleman yield?

Mr. GROSS. Yes; I am glad to yield to the gentleman from Indiana.

Mr. MADDEN. The Indiana State Legislature and the mayors of Gary and East Chicago and Whiting, Ind., as well as the city of Chicago, have been fighting this water pollution for a number of years. We have been trying to get help.

You must bear in mind that 90 percent of the pollution that comes about in that area comes from the terrific amount of industry—oil refineries and other industries. Automobiles traveling from the east going into Chicago and the automobiles from the west, out of Chicago and passing through our area. That contributes a great deal to the pollution problem. It is a problem that the Federal Government will have to commence to extend aid on in order to protect the health of the millions of people living in the Chicago and northern Indiana area. The chances are that the gentleman from Iowa drives through there and by doing so he perhaps contributes a little to the pollution problem.

Mr. GROSS. Thank you very much for my contribution to the pollution problem. But if those steel mills were not operating, you would not know there was an automobile in the vicinity insofar as air pollution is concerned.

There is usually a huge cloud of fumes and smoke over Gary, Ind., and the gentleman knows—since he lives there—that when you drive west on the Indiana Turnpike into Gary, Ind., within 25 or 30 miles of the city, if the wind is from the west, this pollution situation exists.

I would ask the gentleman from Indiana, When does the State of Indiana and the city of Gary propose to do something about it? I have been driving over that highway for more than 20 years, and I have noticed little improvement.

Mr. MADDEN. Mr. Speaker, if the gentleman will yield further, every city in the Calumet area, as the gentleman from Iowa knows, including the steel mills, are trying to work together in order to clean up this water and air pollution situation, but we will need some Federal assistance.

Mr. GROSS. Now you have gotten down to paydirt. That is what I thought this was all about.

Mr. MADDEN. But we have been working on these programs—

Mr. GROSS. In other words, the gentleman wants the taxpayers of the entire country to do something that Indiana and Gary ought to do.

Mr. COLLIER. Mr. Speaker, will the gentleman yield?

Mr. GROSS. Yes, I yield to the gentleman from Illinois.

Mr. COLLIER. I do not want the RECORD as set forth in the colloquy previously had between the gentleman from Iowa (Mr. KYL) and my good friend, the gentleman from Indiana (Mr. MADDEN) to be in error. I think it ought to be clearly established here that the tax reform bill which left this House will in no manner—and I repeat—in no manner leave any excess revenues, because of the provisions of the bill which provided for tax relief in the lower and middle income areas particularly will absorb—if it is passed in the form in which it passed the House by the other body—will absorb every dime that would otherwise have been realized by the reforms that were written into the bill.

Mr. MADDEN. Mr. Speaker, will the gentleman yield?

Mr. GROSS. I yield to the gentleman from Indiana.

Mr. MADDEN. I think if both the gentleman from Iowa (Mr. KYL) and the gentleman from Illinois (Mr. COLLIER) will make a resurvey, they will find that if these loopholes, even the paltry little 7½-percent oil depletion reduction and also the provisions dealing with foundations, real estate, stocks, and so forth, if they are increased in the other body, along with some other loopholes, the bill as passed here would bring in a couple of billion dollars into the Federal Treasury. However, it looks as though now that the White House is doing everything it can to stymie the tax reform bill that the House and the Committee on Ways and Means and our membership devoted so many hours and weeks in this session of Congress in order to have it passed at this session but that the White House is now working to continue it over for another year.

The SPEAKER. The time of the gentleman from Iowa (Mr. Gross) has expired.

Mr. LATTA. Mr. Speaker, I yield 1 minute to the gentleman from Illinois (Mr. COLLIER).

(Mr. COLLIER asked and was given permission to revise and extend his remarks.)

Mr. COLLIER. Mr. Speaker, I take this 1 minute to again try to straighten out the record.

I think it is totally unfair to even suggest that the administration is trying to scuttle the tax reform bill that passed this House. I would suggest to my good friend, the gentleman from Indiana (Mr. MADDEN), so that he might straighten out his own thinking on this issue, that he read the public statements issued by Members of the other body in his own political party. If the tax reform bill is scuttled that is where it will be done. And if it passes, as it did in the House, I certainly do not expect a Presidential veto—and I seriously doubt whether anyone else does, either.

The SPEAKER. The time of the gentleman from Illinois has expired.

Mr. MATSUNAGA. Mr. Speaker, I ask unanimous consent that a typographical error be corrected in House Resolution 544, by striking out on page 2, line 9, after the word "thereof," the word "of," and inserting in lieu thereof the word "the".

The SPEAKER. Is there objection to the request of the gentleman from Hawaii?

There was no objection.

Mr. MATSUNAGA. Mr. Speaker, I move the previous question on the resolution.

The previous question was ordered.

The resolution was agreed to.

A motion to reconsider was laid on the table.

Mr. DINGELL. Mr. Speaker, I move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 12549) to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.

The SPEAKER. The question is on the motion offered by the gentleman from Michigan (Mr. DINGELL).

The motion was agreed to.

IN THE COMMITTEE OF THE WHOLE

Accordingly the House resolved itself into the Committee of the Whole House on the State of the Union for the consideration of the bill, H.R. 12549, with Mr. MCCARTHY in the chair.

The Clerk read the title of the bill.

By unanimous consent, the first reading of the bill was dispensed with.

The CHAIRMAN. Under the rule, the gentleman from Michigan (Mr. DINGELL) will be recognized for 30 minutes, and the gentleman from Washington (Mr. PELLY) will be recognized for 30 minutes.

The Chair recognizes the gentleman from Michigan (Mr. DINGELL).

Mr. DINGELL. Mr. Chairman, I yield myself such time as I may consume.

(Mr. DINGELL asked and was given permission to revise and extend his remarks.)

Mr. DINGELL. Mr. Chairman, for centuries now, man has exploited and freely used the resources provided by his natural environment, secure in his belief that nature's bounty would last forever, heedless of any consequences in his headlong rush toward greater power and prosperity.

More recently, Western man's attitude toward his environment has been characterized by an emphasis on economic motives. The industrial revolution which has provided us with the gift of technology has inaugurated specialization and division of labor as prerequisites for production for profit. In fact, our Nation's wealth was founded on technological progress spurred on by the profit motive.

However, mankind is playing an extremely dangerous game with his environment. Unless we change our ways, mankind faces the very real possibility of extinction from misuse of environment. We have been warned by scientists, citizens' organizations, public officials, and Government agencies of the dangers and consequences of such upsetting agents as air pollution, water pollution, explosion, and overenthusiastic use of pesticides. We have not yet learned that we must consider the natural environment as a whole and assess its quality continuously if we really wish to make strides in improving and preserving it.

Mr. Chairman, H.R. 12549 clearly expresses my conviction that we need the vigorous involvement of the Executive Office of the President of the United States in this problem. This concept of an independent advisory council to the President on environmental matters is not new. It was the principal recommendation of a task force report to the Secretary of Health, Education, and Welfare in June of 1967. I—as well as several other Members of the House—introduced legislation to accomplish this purpose in the 90th Congress. However, no action—other than hearings—was taken on any of these bills.

In February of this year I again introduced legislation to carry out this concept.

After holding 7 full days of hearings, and hearing from a wide range of witnesses including scientists, engineers, ecologists, statisticians, economists, anthropologists, conservationists, and various departmental witnesses, my Subcommittee on Fisheries and Wildlife Conservation unanimously reported to the full Committee on Merchant Marine and Fisheries a clean bill in the form of H.R. 12549. H.R. 12549 was cosponsored by all of the members of my subcommittee, except one, and it was unanimously reported by our full Committee on Merchant Marine and Fisheries.

Mr. Chairman, briefly explained, section 1 of the bill would amend the Fish and Wildlife Coordination Act by inserting a new section in the act designated as section 5A.

Subsection (a) of the new section would recognize the impact of man's activities upon his environment and the critical importance of making that impact less adverse to his welfare. Accordingly, it states a basic and continuing policy that the Federal Government, in cooperation with all other interested parties, shall use all practicable means and measures, including financial and technical assistance, to assure that man's capacity to change his environment is devoted to making that change one for the better, while remaining consistent with his future social, economic, and other needs.

Subsection (b) of the new section would direct the President to transmit to the Congress at the close of each fiscal year an annual report setting forth an inventory of the American environment, broadly and generally identified, together with an estimate of the impact of visible future trends upon our future environment. This report would follow the report submitted by the Council in May of each year.

Subsection (c) (1) of the new section would create a five-man Council on Environmental Quality in the Office of the President. Although the original bills before the committee provided for a three-man Council, the committee felt that there was a clear need for a slightly larger Council with more personal resources available to it, and yet not so large as to be unwieldy; the Chairman of the Council would be designated by the President, since he would be acting as a major adviser to the President in this area. The qualifications of the Council members are stated broadly, since generalists are what the Council will require, and since it is impossible to define generalists adequately except in terms of their overall excellence and competence. Most critical in the selection of the Council members will be their commitment to an understanding and resolution of the environmental problems which we confront as a society.

Subsection (c) (2) would authorize the Council to employ the necessary staff to assist it in carrying out its duties. The importance of attracting and holding an extremely high caliber staff is of great importance. This subsection would give the Council broad authority to obtain the services of experts and consultants, including advisory committees and task forces on specific environmental problems.

Subsection (c) (3) would specify the duties and functions of the Council. These include—

First, assisting the President in the preparation of the annual report;

Second, gathering information on the short- and long-term problems that merit Council attention, together with a constant analysis of these problems as they may affect the policies stated in subsection (a), and a constant inflow of information to the President on the significance of these problems;

Third, maintaining a constant review of Federal programs and activities as they may affect the policies declared in subsection (a), and keeping the Presi-

dent informed on the degree to which those programs and activities may be consistent with those policies;

Fourth, requiring the Council to review and to recommend policies to the President, on the basis of its activities, whereby the quality of our environment may be enhanced, consistent with our social, economic, and other requirements; and

Fifth, authorizing the Council to make studies and recommendations relating to environmental considerations, as the President may direct.

Subsection (c)(4) would direct the Council to make an annual report on its activities to the President.

Subsection (c)(5) would require the Council to maintain open lines of communication with all affected segments of society, and would instruct it to avoid duplication of work that has already been done by others, wherever that can be done. This will be of particular significance as the Council acts to set up the data bank referred to in (3)(B) of this subsection; certainly most of the information flowing into that bank will have to be derived from sources outside the Council, and it will become vital that the Council assure itself that this information continue to be available to it.

Section 2 of the bill would amend title 5 of the United States Code to add the Chairman of the Council to level II of the Executive pay schedule, and the balance of the Council members to level IV. Since this is the same compensation received by the Chairman and members of the Council of Economic Advisers, who devote their full time to carrying out their duties, likewise it would be expected that the Chairman and members of the Council on Environmental Quality will devote their full time in carrying out the work of this high-level Council.

Mr. Chairman, our Committee on Merchant Marine and Fisheries was impressed by the wide range of witnesses testifying at the hearings in support of the legislation. In the main, all witnesses were in favor of the legislation. In fact, it is worthy to note that out of approximately 100 witnesses heard at the hearings there developed no substantive opposition on the part of the public to the legislation, and that the slight resistance on the part of witnesses for the departments stemmed from a feeling that the Council might in some way conflict with the interdepartmental Council on Environmental Quality established by Executive order of the President on May 29 of this year. It should also be noted that while the departments did not recommend enactment of the legislation, neither did they recommend against it. Witnesses from several agencies spoke highly of the potential of the Council contemplated by the legislation as complementary to the excellent steps already taken by the President. The only opposition to the legislation came from the Office of Science and Technology, which was based on the premise that the Council established by Executive order would accomplish the same purpose as the Council to be established by the legislation.

Mr. Chairman, our entire membership of the Merchant Marine and Fisheries Committee applauds the President on creating a Cabinet-level Council on Environmental Quality. However, we do not believe the Cabinet-level Council can devote a major proportion of their attention to the problems in the depth required. The problems are of several magnitudes larger than those which can be dealt with by this interdepartmental organization and its six staff members. On the other hand, we do realize that the interdepartmental Council can fill a clear and observed need of coordinating and resolving internal policy disputes between different executive agencies of the Government.

The purpose of this bill is to create by legislative action, standing outside the programs that can be done and undone by unilateral executive action, a council which can provide a consistent and expert source of review of national policies, environmental problems and trends, both long term and short term. Such a council would act entirely independently of the executive, mission-oriented agencies.

The President, the Congress, and the American people stand in need of this type of assistance. No organization, in existence or contemplated, except as provided for in this bill, shows any sign of meeting that need. It is for this reason that I strongly recommend the creation of such a council, through enactment of H.R. 12549.

Mr. GROSS. Mr. Chairman, will the gentleman yield?

Mr. DINGELL. I am glad to yield to the gentleman from Iowa.

Mr. GROSS. I note in the report that it is estimated that spending for this council will be in the neighborhood of \$1 million a year.

Mr. DINGELL. That was the estimate of the committee as to the cost of the program. That is correct.

Mr. GROSS. So far as the language in the bill that deals with financing—

Mr. DINGELL. If the gentleman will permit me, I should like to point out that an amendment setting out such a limitation is under contemplation. The committee has been informed of it. I am informed that such an amendment will be offered by the gentleman from Colorado (Mr. ASPINALL.)

Mr. GROSS. What will it provide?

Mr. DINGELL. It will provide a total annual limitation of \$300,000 for the first year, \$500,000 for the second year and \$1 million each year thereafter. I would say to my good friends on the subcommittee that we have discussed this matter and we intend to interpose no objection to the offer of that amendment.

Mr. GROSS. On page 3 of the bill, beginning with line 15 and running through to line 22 there is a provision for the employment and compensation of experts and consultants. I note that line 20 provides that it be "in accordance with section 3109 of title 5, United States Code—but without regard to the last sentence thereof." What is the meaning of that exception with respect to pay or employment?

Mr. DINGELL. That, I am informed, is standard language in this type of legislation.

Mr. GROSS. Why?

Mr. DINGELL. I point out that language comes exactly, word for word, from the language in the Full Employment Act of 1946, from which the language of H.R. 12549 was taken and which, as the gentleman well knows, is the Council of Economic Advisers. The Council on Environmental Quality, which is set up in the bill before us, contains the precise language that comes directly from that. It is to enable the hiring of certain kinds of experts for guidance and counseling.

Mr. GROSS. It permits unlimited hiring. Is that correct?

Mr. DINGELL. It would not, if the House adopts the amendment the gentleman and I were discussing. As I pointed out, there will be a limitation in total hiring by the agency in the amount of \$1 million, beginning with the third year of the program.

Mr. GROSS. In other words, they could hire so-called experts, consulting firms and contract employees at will, I suppose?

Mr. DINGELL. This does, let me say to my good friend, enable the Council to hire consultants to achieve that kind of assistance. It was the opinion of the committee that to do so would be much more desirable than to go out and establish a great big in-house operation. We think the functioning of the Council would be much more efficient if it is able to employ outside skills through the advice of consultants instead of taking people regularly on the payroll.

Mr. GROSS. How many of these environmental councils or offices do we have now in circulation in the Government? Does the gentleman have any idea?

Mr. DINGELL. Yes, there is one Council which was set up by the President pursuant to Executive order. There are distinctions, I would point out to my friend. I would refer him to the bottom of page 4 and the top of page 5 of the report to see the distinction which exists between the Executive order Council and the provisions of the bill now before the House.

Mr. GROSS. I happened to be driving in Virginia only last Sunday and I came across an environmental setup out there occupying perhaps 300 acres of land with new buildings on it.

Mr. DINGELL. We are not setting up under this legislation such an institution. It is my intention as chairman of the subcommittee that brings this legislation to you to see that the agency functions efficiently and uses its services in the best manner possible.

Mr. GROSS. Mr. Chairman, can the gentleman tell me about this environmental setup out in Virginia?

Mr. DINGELL. Mr. Chairman, I have no knowledge of it. It is a private institution and I am not able to tell my good friend, the gentleman from Iowa, what it is and what it does.

Mr. GROSS. They call it the Environmental Sciences—that is at least part of the title that appears on the gate.

Mr. DINGELL. I wish I could tell my friend what it is, but it is a private institution, and I have no knowledge of it.

Mr. GROSS. But the point is, somebody ought to tell us how many environmental setups there are in existence in the Government now and the cost of them.

Mr. DINGELL. In Government there is one agency set up by the Presidential order, but it has functions which are very different from those in the bill.

I wish I could yield further to my friend, the gentleman from Iowa, but I have other demands on my time.

Mr. Chairman, the bill requires an annual report by the President to the Congress on a number of issues of environmental significance. Our committee will of course arrange for public hearings on that report and on any recommendations that the President or the Council may care to make, and will take every step possible to insure that the report receives the widest possible comment in the legislative and public communities.

We also recognize that practically every standing committee of this House has some concern with aspects of the environmental problems which we confront. We would expect, therefore, to do everything possible to see that each committee is kept fully informed on our plans for these hearings and that representatives of those committees will be given every opportunity to bring out points of concern in the report that may be relevant to their interests. Our intention will be not to inhibit public discussion on these issues, but rather to enrich it, and this we cannot do adequately without the cooperation and assistance of each committee.

Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN. The Chair recognizes the gentleman from Washington (Mr. PELLY).

(Mr. PELLY asked and was given permission to revise and extend his remarks.)

Mr. PELLY. Mr. Chairman, I yield myself 10 minutes.

Mr. Chairman, I wholeheartedly support the remarks of the distinguished chairman of the Fisheries and Wildlife Conservation Subcommittee, the gentleman from Michigan (Mr. DINGELL), who has worked very hard to bring this important legislation to the floor. H.R. 12549, the clean bill to establish a Council on Environmental Quality, was unanimously reported by the Committee on Merchant Marine and Fisheries and has the bipartisan support of the members of that committee.

I have been asked, "Do we need another Presidential Commission or Council? Have we not enough experts in and out of Government concerned with the quality of our environment?" The answer to the second question explains the need. There are many experts within Government, industry and academic institutions concerned with various aspects of improving our daily life. We have experts in the field of transportation cop-

ing with the problem of moving people from one city to another in the least possible time with the greatest degree of safety. We have constructed a vast system of interstate highways to accomplish this. Yet at the same time, we have created serious problems of soil erosion, stream pollution and urban displacement. We have other experts concerned with assuring an adequate food supply for our ever-growing population. In conjunction with private industry, they have developed powerful chemicals to control pests and diseases that would otherwise destroy a substantial portion of the harvest, but these chemicals pollute our streams and lakes, and their residue is building up in our bodies. We have other experts who build dams to control floods and at the same time destroy irreplaceable stretches of wilderness.

Progress in transportation, agriculture, the prevention of natural disasters, and developments in many other areas where we have applied modern technology are essential in a country of over 200 million people. The experts have, by and large, done their job well, but we must remember that their job is building highways, increasing our food production, preventing floods, and so on. Their primary concern is not the quality of our environment considered as a totality. That is not to say, of course, that the Federal Government is not concerned about the impact of such programs upon the quality of life as a whole. There is a growing awareness on the part of the principal executive departments that they must look beyond the narrow confines of their particular responsibility. We must recognize, however, that there is a natural inclination to foster and promote programs. Rarely will we find a department head urging the curtailment of a program because of its long-range adverse impact upon the environment as a whole. Thus, within the Federal Government we have many groups working to improve our lives, frequently at cross purposes.

The President on May 29, 1969, issued an Executive order establishing an Environmental Quality Council composed of the Vice President and six Cabinet Secretaries. The Science Adviser to the President was appointed Executive Secretary of the Council and assists the President in directing its affairs. The Office of the President's Science Adviser will furnish administrative and staff support for the Council. This is an extremely important development within our Federal Government in that it provides the machinery whereby the heads of principal departments will be able to interchange ideas concerning the impact of their programs and the goals of their agencies.

Again, however, we must bear in mind that the primary function of our Cabinet Secretaries is to administer and promote the efforts of their respective departments. I would not expect a Cabinet officer who is vigorously pursuing the mandate of his department to lay aside a program to which his department is committed simply because another department head raised doubts about its long-range impact upon the environment

so long as there are short run benefits to be gained. I believe, therefore, that while the President's Council on Environmental Quality will be a useful tool for the interchange of information and for some degree of coordination, we cannot expect that the parochial views of the respective departments will be entirely divorced from its deliberations and decisions.

Beyond the Federal Government, there is the vast area of State and local activity, which has an equal if not greater impact upon our environment. The fields of waste disposal, industrial pollution control, intelligent land use, and so forth, are primarily in the hands of our State and local governments. While the Federal Government through a variety of programs gives assistance, the ultimate responsibility rests at the State and local level, and the goal of an improved environment rests ultimately on the success achieved by our States and municipalities.

The third major area concerned with our environment is private industry encompassing large corporations, which are too frequently large polluters of our environment as well, all the way down to the smallest business entity that produces some form of refuse. The problems of industrial pollution are infinitely complex. Virtually every industrial process requires a different form of pollution control depending upon the raw materials employed and the end product of the process. In this regard, our committee received testimony from an official of one of our largest industrial corporations who outlined the tremendous complexity of pollution control and the great financial investment required, both to build pollution control into new plants as well as add it to existing, often old, economically marginal plants.

The problem that we face in the field of environmental quality is greatly complicated by the fact that no one of these groups alone can bring about any change for the better. Whatever is done will require the highest degree of coordination of programs and interchange of knowledge. The continued appropriation of money by Congress for pollution abatement programs administered by a variety of Federal agencies, often employing conflicting standards, will not of itself produce much return.

What is needed today is an organization devoted exclusively to the problem of reconciling the needs of a large industrial society with the desire for quality in our environment. By quality, I mean, among other things, air that is just air, not air diluted with lead and other industrial wastes—water that is just water, not fortified with DDT—wildlife flourishing in its natural habitat rather than recorded in a book of extinct species—and cities where people can satisfy their desire for economic prosperity without paying a heavy price in terms of physical and spiritual deterioration.

The President's Council on Environmental Quality cannot accomplish the task of coordinating the activities and often conflicting interests of our Federal agencies, State and local governments,

and private industry. The responsibilities of our Cabinet officers are already too varied—the demands on their time too great.

Assuming, however, that the Cabinet Secretaries do have the time to get together and engage in a meaningful exchange of information and ideas, who will provide the groundwork for their deliberations? According to the President's Executive order, the Science Adviser and his staff will furnish the needed expert assistance on environmental matters. However, in testimony before our committee, Dr. Lee DuBridge, the President's Science Adviser, stated that the President has requested an appropriation for only six additional staff members to support the Environmental Quality Council, and there is no assurance that even these six would devote themselves exclusively to the Council.

The budget item covering these positions was included in the request for the Bureau of Outdoor Recreation of the Department of the Interior. However, the Appropriations Committee refused to act upon this request, and the bill as passed by the House did not include these funds. I understand that the other body agreed with our action yesterday. The report of the Appropriations Committee expressed the committee's concern for the environmental problems facing the Nation, but stated that the patchwork approach such as envisioned by the Executive order would be little better than nothing. The report further stated that the committee would be receptive and sympathetic to the funding requirements necessary to achieve the objectives stated in the various bills now pending in the Congress for the creation of a Council on Environmental Quality.

Mr. Chairman, the essential element of this legislation is the creation of an expert body whose members will devote their full time and attention to the difficult task of analyzing and interpreting environmental information, and who will be in a position to formulate and recommend to the President national policies to promote the betterment of our environment. Of equal importance is the requirement that the Council annually report to the President and the President, in turn, report to the Congress regarding the status of our environment. Only in this way can we gather the facts upon which to make intelligent decisions.

The Council will complement rather than conflict with the interagency council established by the President's Executive order. Hopefully, it will have a staff well versed in all aspects of our environmental problems. In my opinion, this staff will augment and be of great benefit to the office of the Science Adviser.

I have not attempted to discuss in any detail the great number of environmental problems facing the Nation today. These problems have been discussed at great length by many distinguished Members. Even a casual examination of the CONGRESSIONAL RECORD will illustrate the attention which our colleagues have given these problems. I have stressed the organizational aspects of our fight for environmental quality rather than simply catalog the many crises we are facing. The technological know-how exists

today to produce clean air and water and to generally upgrade the quality of our environment. A recent report of the American Chemical Society entitled "Cleaning our Environment—the Chemical Basis for Action," stressed the fact that this country can take enormous strides now toward a cleaner environment if it is willing to devote sufficient energy and financial support to the task. We have identified many of the problems, we have the technical know-how to solve them. This legislation will establish a much-needed focal point to set priorities and channel the efforts of Government and industry in a coordinated program. I therefore strongly urge its passage.

Mr. DINGELL. Mr. Chairman, I am happy to yield 2 minutes to the distinguished chairman of the Committee on Merchant Marine and Fisheries, the gentleman from Maryland (Mr. GARMATZ).

(Mr. GARMATZ asked and was given permission to revise and extend his remarks.)

Mr. GARMATZ. Mr. Chairman, as chairman of the House Committee on Merchant Marine and Fisheries, I am naturally concerned about all phases of the environment which affect fish, wildlife and our natural resources. The ugly and devastating disease of pollution has contaminated every aspect of our environment—air, land, and water.

The massive pollution that now stalks our Nation is a very real and dangerous threat. It constitutes a problem so vast and so inter-related, one segment of the environment cannot be separated from another. Since man's manifold activities are affecting all components of the natural environment, the only logical approach is a broad-ranging, coordinated Federal program.

Mr. Chairman, H.R. 12549 is designed to initiate such a program. This legislation proposes to create a Council on Environmental Quality. This Council, which would be composed of outstanding and qualified leaders of the scientific, industrial and business community, would oversee and review all national policies relating to our environment; it would report directly to the President and recommend national programs to foster and promote the improvement of the Nation's total environmental quality.

One of the vital functions of this council would be to consult with State and local governments and other interested groups and individuals, and to utilize the services, facilities and information of these agencies and organizations. I consider this to be an extremely important and significant function, since, for the first time, it would establish an effective liaison between the Federal Government and individual States, thereby creating a long-needed central clearinghouse of information.

Establishing such a council will not immediately solve all our massive pollution problems. It will, however, constitute the most significant step yet taken because it will represent the very first concerted congressional attack upon all forms of abuse upon our natural resources.

Mr. Chairman, I urge passage of this legislation, and I hope it will be enacted as rapidly as possible.

Mr. PELLY. Mr. Chairman, I yield 3 minutes to the gentleman from California (Mr. MAILLIARD).

(Mr. MAILLIARD asked and was given permission to revise and extend his remarks.)

Mr. MAILLIARD. Mr. Chairman, I shall not take very much time. I simply want to say that as the ranking minority member on the committee I support this bill.

In recent years, scientists—and in turn the public—have become increasingly aware that technological progress is a mixed blessing. This can perhaps be compared to the injection of a newly-developed drug into the human body. All too often while curing the disease, the drug will produce undesirable side effects. In some instances, these effects may prove fatal. Short of that, the drug must be administered with caution and the body's reactions carefully monitored. Fortunately, the average human body can tolerate a high degree of foreign substances intended to ward off or cure certain ills. Within a certain range, the body simply throws off anything in excess of its needs.

Our planet, earth, has demonstrated a similar ability to absorb the side effects of increased population and industrial development.

We did not begin polluting our environment in earnest until the 19th century. Birmingham and other English cities where iron and coal were brought together to form the basis of an industrial society first witnessed the intolerance of our atmosphere. The grime was an unmistakable sign that man was injecting far more than nature could absorb.

But this was a purely local condition—a very small raw spot. Annoying in the immediate area but hardly of much concern to the world as a whole. Generally, our ancestors stood in awe and marveled at the scientific and technical progress of the 1800's. The water became a bit murky and a smell began to pervade the air, but few noticed.

Some years after England first tasted—and smelled—the benefits of industrial progress the United States began the rapid development of a great industrial society. Our realization of its unpleasant side effects has been slow in coming, however.

In 1695, a man named Thomas Beverly wrote a book in London in which he described the end of the world in 1697. He wrote a second book in 1698 claiming that the world had indeed ended but nobody had noticed.

Probably nobody will notice the day the earth begins to produce less oxygen than is consumed. Nor will anyone be aware of the precise moment when the accumulation of pesticides produces irreversible physical changes in all animal life including man.

The side effects of progress are difficult to monitor. We know so little about the fundamental processes of nature and even less about the impact of our interference with these processes.

To most laymen like myself these problems seem remote indeed. While there is some evidence, for example, that we are using up the world's oxygen supply, it is

difficult to relate these questions to here and now. Yet someone must. We do not have the right to exploit the world's resources or apply our scientific knowledge without some regard for those who will inherit this world and this Nation.

Fortunately, this globe has a high degree of natural resistance to man's injections of progress. We have not yet exceeded its level of tolerance. We must, however, begin to monitor it and modify our activities when danger signals appear. This cannot be done haphazardly. It will require expert advice in all scientific and technical disciplines and coordinated action at all levels of government and economic activity.

I believe the Council on Environmental Quality as envisioned by this legislation can fulfill this vital role and I support its enactment.

Mr. PELLY. Mr. Chairman, I yield such time as he may consume to the gentleman from Wisconsin (Mr. SCHADEBERG).

(Mr. SCHADEBERG asked and was given permission to revise and extend his remarks.)

Mr. SCHADEBERG. Mr. Chairman, I rise in support of the bill, H.R. 12549.

Mr. Chairman, I participated in many hearings at which experts in their respective fields of knowledge warned against action in making progress without regard to its ultimate effect on the quality of our environment and which causes irreparable damage to our streams and lakes and atmosphere. The fact is that the various segments of society working each in its own field has resulted in a situation in which the right hand of government does not know what the left hand is doing. It is certainly not in the best interests of the citizens of our country either as citizens desiring improved environment in which to live and as taxpayers to spend millions to build dams to provide flood control or recreational areas when such a project might add to the pollution of the streams and lakes through tampering with the natural flow of the stream that cleanses it. It is imperative that our efforts to make progress and to improve our environment be coordinated. This legislation is a step in the right direction.

Mr. Chairman, man has been able to progress to his present state of development by controlling his environment instead of having to adjust to its changing conditions. He has harnessed streams and rivers to provide power and transportation. He has dug deep into the earth to mine the minerals that provide energy, heat, and light. He has built himself protection from the natural elements by using nature's natural products. But in so doing, he has upset the natural balance of the earth that has provided him with his wealth. If man is to survive, he must learn to work with, instead of against, this natural balance. Man is rapidly running headlong into disaster as a society as he desecrates the water, air, and land. Action is needed now.

Mr. Chairman, the general quality of the environment relates to the general welfare of the people of the United States and must, therefore, be a main priority of Congress. As we consider more and

more legislation to combat the problems of environmental imbalance, Congress needs to have at hand an understanding of how to create and maintain conditions under which man and nature can exist in productive harmony, thereby fulfilling the social, economic, and other requirements of present and future generations. The Council proposed by the legislation now under consideration is necessary in order to provide this understanding. If such a council existed at the time of the invention of the automobile, perhaps we would have been able to realize the threat that would be presented to our atmosphere by the internal combustion of hydrocarbons before it was too late.

The great advantage in the council approach is that the findings will be shared by all agencies of the Federal Government, enabling them to develop meaningful environmental policies at the lower decisionmaking levels, and by the local and State governments.

Mr. Chairman, as I work with my district to preserve beautiful southern Wisconsin, I find the greatest problem is that there are many studies on particular problems, but there is no information available on the interrelatedness of all the proposed solutions. I support this legislation with the hopes that the Council on Environmental Quality can meet the needs of the American people. By providing a consistent review of national policies and environmental problems so that the present threat to our future can be approached in a comprehensive fashion.

Mr. PELLY. Mr. Chairman, I yield such time as he may consume to the distinguished gentleman from Minnesota (Mr. MACGREGOR).

(Mr. MACGREGOR asked and was given permission to revise and extend his remarks.)

Mr. MACGREGOR. Mr. Chairman, I strongly favor the adoption by the committee of the bill to provide for the establishment of a Council on Environmental Quality. We badly need to create a Council with a broad and independent overview of current and long-term trends in the quality of our national environment, to advise the President, and through him the Congress and the American people on steps which may and should be taken to improve the quality of that environment.

I note from the hearings that the slight resistance on the part of witnesses for the executive departments stemmed from a feeling that the Council might in some way conflict with the interdepartmental Council on Environmental Quality established by Executive order of the President on May 29 of this year. But witnesses from several agencies spoke highly of the potential of the Council contemplated by the legislation as complementary to the excellent steps already taken by the President to achieve consistent and coherent environmental policy within the executive agencies through the interdepartmental Council.

The Departments of Transportation and the Interior were of the opinion that should the Congress feel that establishment of a separate environmental ad-

visory body in the Executive Office of the President along the lines contemplated by this legislation was desirable to assist the efforts of the President's Council, they would not object to such action. The Department of Health, Education, and Welfare stated that if the legislation were enacted into law, it stood ready to cooperate to the fullest in carrying out its praiseworthy purposes.

The testimony at the hearing also stressed the importance of the international aspects of the environmental problem. It is an unfortunate fact that many and perhaps most forms of environmental pollution cross international boundaries as easily as they cross State lines. Contamination of the oceans, with insufficient attention paid to its long-term consequences, appears to be a major problem to which far too little attention has been spent in the past. The international aspects are clearly a major part of the questions which the Council would have to confront, and I feel confident that these would receive early attention by the Council.

Several members of the scientific community have stressed the need for the development of an adequate information collection and retrieval system. There is today a 5- to 10-year gap between the development of basic research information and its technological implementation. Much of this basic research has significant implications for both improvement and degradation of man's environment, and activities in this area should more than repay the initial investment, to the extent that the Council could assist in making this information more accessible to the public and to the Federal Government.

State and local governments have a large stake in the common problem; it is also true that by no means all of the environmental problems which we see are caused, even indirectly, by the Federal Government alone. Witnesses at the hearings stressed the need for a continuing interchange between the Council and other agencies, including private citizens' groups, as a significant part of the environmental problems. There should be clear and open lines of communication between the Council and the public. The Council should also consider the impact of its activities upon the educational system, together with ways and means of continuing the growing trend toward public enlightenment on and concern with the important environmental issues that we confront.

(Mr. REID of New York (at the request of Mr. PELLY) was granted permission to extend his remarks at this point in the Record.)

Mr. REID of New York. Mr. Chairman, I rise in strong support of H.R. 12549, to provide for the establishment of a Council on Environmental Quality.

This legislation is, if anything, long overdue, but greatly needed nonetheless. The dangers of polluting ourselves off the planet within a decade are not exaggerated, and unless we act without further delay to combat air and water pollution, we will find ourselves smothered and choked by our own lack of action and existing, inadvertent weather modification. I applaud this urgently needed

legislation, but the existence of this Council must in no way be an excuse for lack of action by the interdepartmental Council on Environmental Quality established by Executive order of the President on May 29 of this year. I would hope in addition to annual reports that interim reports from both councils would be forthcoming in the near future as we can tolerate no further delay in national action.

Mr. DINGELL. Mr. Chairman, I yield such time as he may consume to the distinguished gentleman from Florida (Mr. ROGERS).

(Mr. ROGERS of Florida asked and was given permission to revise and extend his remarks.)

Mr. ROGERS of Florida. Mr. Chairman, I rise in support of the bill, H.R. 12549, to amend the Fish and Wildlife Coordination Act to establish with the Executive Office of the President a Council on Environmental Quality.

I was pleased to join with my distinguished colleague from Michigan (Mr. DINGELL) and the other members of the Subcommittee on Fish and Wildlife Conservation in sponsoring this legislation, and I am confident that the House will recognize the import of this legislation and quickly voice its approval.

Time is of the essence, Mr. Chairman, in our struggle to restore our environment. Man simply does not have an eternity to right the wrongs he has done to the land, sea and air. Indeed, he may only have a generation. We must correct these wrongs and chart new directions which will guarantee that history does not repeat itself in the wanton and reckless use of the environment that God has provided for us.

This legislation would enable such new direction to be charted by providing the President and the Congress with annual environmental quality reports. The bill would also require the five-man Council to maintain a continuing review of Federal policies and activities with environmental implications. This is necessary because the various agencies and departments of the Federal government do not always act harmoniously in their concept and utilization of the land, sea and air upon which we must rely for our very existence.

Above all, this legislation would provide the first independent source of review of the total environmental situation, and this is most necessary in view of the fact that we are spending more and more each fiscal year to combat pollution and to restore our environment, and we will be spending more in the years to come if we are to successfully win the battle.

Mr. DINGELL. Mr. Chairman, I yield such time as he may consume to my distinguished friend the gentleman from Minnesota (Mr. KARTH).

(Mr. KARTH asked and was given permission to revise and extend his remarks.)

Mr. KARTH. Mr. Chairman, I would like to begin by saying that I endorse the remarks just made by the distinguished chairman of our Subcommittee on Fisheries and Wildlife Conservation and

wholeheartedly support his request for passage of H.R. 12549.

As one of the cosponsors of H.R. 12549, it is needless to say that I support H.R. 12549. However, I would like to emphasize several points which I think justify the establishment of an independent council on environmental quality.

First. The President's Cabinet level Environmental Quality Council can carry out decisions but has a built-in conflict of interest in arriving at proper conclusions due to statutory obligations for various operating programs.

Second. Environmental decisionmaking requires independent, consistent, and expert advice.

Third. No such capability exists today for the President, the Congress or the public.

Fourth. The Office of Science and Technology has a great number of important duties for a limited staff. Funding of additional environmental staff services in this office is therefore complicated and unlikely to produce the required level of effort.

Fifth. While science and technology can bring important facts to environmental decisionmaking, this information is only a part of what is necessary. Therefore, the emphasis on science, which the announced role of Office of Science and Technology suggests, is misleading and could decrease the availability of non-science inputs to the President.

Sixth. The present Citizen's Advisory Committee is a renaming of a former group established for recreation and natural beauty. Its membership is not chosen—and is therefore not adequate—for the task of environmental quality and productivity studies. Support for this group has been meager—via the Bureau of Outdoor Recreation of the Department of the Interior—and is likely to be curtailed further because of the unwillingness of the Congress to sustain such indirect funding.

Seventh. An independent advisory body established by statute as proposed in this bill, would command the funding support of the Congress, thus enabling the establishment of an adequate, highly competent staff.

Eighth. A mandate of independent review would attract persons of the highest character and expertise to serve as Council members. The goal of complete and objective structuring of the available facts and ideas would bring outstanding scholars to the staff. The stature of the Council and its staff would stimulate improved performance of all organizations concerned with the environment.

Thus, Mr. Chairman, passage of this legislation would add a complementary step to that taken by the President. Both the legislative and executive branches are well agreed on a national policy for the environment. The electorate has the will power and the purse power to accept decisions for an improved management of our natural surroundings. Let us now construct the institutional arrangements which will put policy into practice.

Mr. Chairman, I join my colleagues in urging prompt passage of H.R. 12549.

Mr. DINGELL. Mr. Chairman, I yield such time as he may consume to the gentleman from New York (Mr. FARBSTEIN).

(Mr. FARBSTEIN asked and was given permission to revise and extend his remarks.)

Mr. FARBSTEIN. Mr. Chairman, I echo the sentiments of those who have spoken heretofore this afternoon in connection with the dire need for legislation of this type. I am particularly interested in the pollution of the air which is caused by the emissions from automobile engines. I do hope that sufficient time and attention will be given to this question.

This legislation, H.R. 12549, to establish a Council on Environmental Quality is long overdue.

For too long, we have stressed technological progress, assuming that our environment could take care of itself. We have found that unfortunately it could not, and the result of our neglect is that our environment is becoming increasingly unlivable. Schoolchildren in Los Angeles cannot exercise outdoors on certain days because the smog level is too high. Street corners in Tokyo now must come equipped with pure oxygen so that motorists can prevent themselves from becoming asphyxiated.

I support this legislation today for the same reasons I introduced H.R. 12265, legislation to accomplish the same objective, last June. I believe a new set of priorities is needed in national policy emphasizing the creation, restoration, and maintenance of a habitat in which people can live more healthful lives and better enjoy their physical surroundings.

The American Chemical Society has recently put out an excellent report entitled "Cleaning Our Environment: the Chemical Basis for Action." This report examines our technological capabilities for doing something about pollution and comes to the conclusion that willingness to act, and not technological capability, is the major obstacle to action. What it points out is particularly true of automotive pollution. The report suggests that there are a number of practical alternatives which could be utilized now to lower the pollution level from automobiles if only the auto industry would act. The auto industry, like most of the rest of the society, will act, however, only when compelled.

The individual acts against pollution, if he acts at all, in accordance with his own self-interest. This is fully as true of the man in the street as it is of the legal person called the corporation or of any Government agency. Companies may rail at the actions of pollution control officials, but how many companies have acted to abate pollution without some inducement in addition to the simple desire not to pollute, be it improved public relations, the possibility of profit, or threat of legal action? Self-interest is, of course, old to the affairs of men, and society deals with it generally, in the larger good, by striking a balance called the law.

Since I introduced legislation to ban the internal combustion engine in July

I have come into contact with numerous technological improvements which could be employed by the auto and oil industries to lower the emission levels of automobiles. Among these are alternatives to the internal combustion engine itself. The auto industry tells us that steam and electric engines are not practical, yet we find backyard inventors and smaller companies with little capital and few facilities able to develop, working, and in many cases inexpensive, steam and electric engines. A recent article in the Los Angeles Times documents one such engine, developed for the State of California:

RETURN OF STEAM AGE? NEW CAR ENGINE
COULD CUT AIR POLLUTION

(By Irving S. Bengelsdorf, Ph. D.)

You get into the car, insert the key into the ignition, turn the key, wait about 7 seconds, press down on the accelerator and drive off smoothly and noiselessly. You are driving an automobile equipped with a simple, powerful, inexpensive, lightweight, compact, fast-starting and non-air-polluting steam engine.

Is there such a steam engine? Indeed, there is. Using the latest technological developments in combustion, air flow, metallurgy, measuring instruments and control devices, General Steam Corp., Newport Beach—formerly Thermodynamic Systems, Inc.—has solved the difficult engineering problems that have plagued steam engines in the past. GSC has designed and constructed a steam engine that shortly will be installed for testing in a California Highway Patrol car.

The modern steam engine offers many advantages over the internal combustion engine. Consider air pollution. Don. E. Johnson, GSC executive vice president and general manager, points out, "In testing during 1967, a 1963 car with no smog controlling device produced 596 parts per million of unburned hydrocarbons to pollute the air, even after a tune-up. A 1967 automobile, equipped with California smog devices, cut its production of air pollutants to 267 ppm. However, a 1960 steam car, with no smog device and no tune-up, produced only 20 ppm hydrocarbons."

Or, consider simplicity. Lift the hood of a steam engine and there are few parts—no carburetor, distributor, set of spark plugs or smog devices. Unlike an internal combustion engine that operates by a series of timed, discrete, high-pressure explosions that take place within individual cylinders, a steam engine burns fuel smoothly and continuously at low pressures.

So, steam engine combustion is more complete, tosses out less carbon monoxide and nitrogen oxides and fewer unburned hydrocarbons, and does not require leaded fuel.

Thus, the use of steam engines to propel automobiles would not only help to purify our air, but it also would permit us to use a cheaper fuel (kerosene is easier and less expensive to produce than gasoline), and it would eliminate the need for toxic lead additives that ultimately pollute the landscape and ourselves.

Nor is this all. The GSC steam engine needs no internal "motor oil." New advances in metallurgy have made it self-lubricating. And, there is no need for a bulky, massive air conditioner. Use of steam pressure with a small, solid-state device about one-half the size of a pack of cigarettes cools the car pleasantly in hot weather. If the temperature outside is below freezing, a small pilot light keeps the steam generator warm, preventing the water from freezing.

The water that is used to be changed into steam to drive the GSC-steam engine is in a sealed, recirculating system. Once the water

is added, additional water should not have to be added for the original water should stay in and be used over and over again to make steam. And the car is explosion-safe. At any given moment, only a pint of water, at the most, is being changed into steam. There is no evidence that any steam-powered car in the past had an explosion due to its steam system.

GSC steam engines can be made in the form of reciprocating engines, turbines or rotary engines. The new steam engine technology opens up a great deal of versatility and flexibility to engineers involved in the design and construction of engines for cars, ships, helicopters, pumps and the generation of small amounts of electrical power.

So, unlike some previously publicized steam engines, an excellent alternative to the increasingly complex internal combustion engine is just around the corner. The modern steam engine can play a key role in the cleansing of our air.

But, a mass-transit system operated by steam not only would clear out skies, it also would solve the traffic congestion problem at the same time. For as long as we depend exclusively on personal automobiles—one person to a car—to move from A to B, there will be horrendous traffic jams, regardless of what kind of power plant is under the hood.

I hope the Council on Environmental Quality will thus not just examine the problems of nature as they apply to the wilderness, but will face up to environmental problems like air and water pollution, which affect our cities, and serve as a lobby for action.

Mr. DINGELL, Mr. Chairman, I yield such time as he may consume to my distinguished friend, the gentleman from Ohio (Mr. FEIGHAN).

(Mr. FEIGHAN asked and was given permission to revise and extend his remarks.)

Mr. FEIGHAN, Mr. Chairman, I rise in support of H.R. 12549 to establish a Council on Environmental Quality to advise the President and, through him, the Congress on steps that should be taken to improve the quality of the American environment. The Council would also submit a report on foreseeable trends affecting the status of the environment in an attempt to forestall future devastation of man's most valuable commodity—his natural surroundings.

At a crucial juncture in the future development of our great Nation, we cannot afford to ignore the deplorable condition of many of our natural resources, the building blocks on which our future greatness depends. While steps have been taken to improve and preserve the quality of the environment, both by the public and private sectors, there is a distinct need for the proposed Council to coordinate these sometimes haphazard efforts and to plan for the future. The commitment, in view of the vast amount of work to be done, cannot be part time. The problems demand full-time expertise and attention.

As the representative and citizen of a district which has the dubious distinction of claiming within its boundaries a river that periodically catches fire and which borders on a lake referred to as the "Dead Sea," I am particularly concerned with measures which would improve the condition of these and similarly afflicted areas. Water pollution, however, is far from our sole environmental problem. The state of the air in Cleveland is at

times barely breathable at best. This unfortunate situation exists in virtually all our large industrialized metropolitan complexes.

The residents of Cleveland are calling for the amelioration of conditions, as are concerned citizens throughout our Nation. These interested individuals may make strides privately or may appeal to local and State governments, but access to sophisticated research and development techniques are limited. In addition, their goals, in general, are specifically related to immediate conditions. The formation of the Council on Environmental Quality would function to coordinate these efforts, lending their expertise with a broad and independent overview of current and long-term trends, saving local interest groups duplication of mistakes and apprizing them of success in other regions.

Last week 6,000 public works experts held meetings in Cleveland, pooling ideas on how to cope with America's environmental problems. Much more needs to be done, however. An annual meeting of this nature does not lend itself to the free and efficient flow of information.

I believe if we had had the annual report on the status of the environment which this bill will produce, a much greater understanding of the problems would exist. And public understanding is basic to obtaining the willingness to make the efforts and expenditures to restore and maintain environmental quality. Our legislative efforts in air, water, and solid waste control, in land use planning, recreation, and natural beauty, and other environmental affairs have given us a good start. The bill today will add another powerful tool in the very difficult task of improving our surroundings while continuing to extract a high standard of living.

I feel that the establishment of this Council is essential and urge support of H.R. 12549. The success of this type of organization is everyone's success in a world in which man can be his own worst enemy.

Mr. PELLY, Mr. Chairman, I yield such time as he may consume to the gentleman from Ohio (Mr. MINSHALL).

(Mr. MINSHALL asked and was given permission to revise and extend his remarks.)

Mr. MINSHALL, Mr. Chairman, I rise in support of H.R. 12549, to establish a Council on Environmental Quality.

We of the 20th century have leaped technological barriers which for thousands of years baffled and blockaded mankind's progress. But in our haste to expand and modernize our cities, exploit our highways, airways, and waterways, and to wrest from the earth its crops and minerals, we have forgotten the immutable law of nature. All things must remain in balance or the harmony which makes life not only tolerable but possible will be destroyed.

Lake Erie is a tragic example of the mindless abuse men have heaped upon nature in the name of progress. Many of you in this House who remember this lake from your youth know that it was a productive, beautiful body of water. Today it is near death, its harvest of fish reduced only to perch, its waters unfit

for swimming, and even when chemically treated so that it is potable, so unappetizing in color and aroma as to be scarcely drinkable. It—and thousands of lakes, streams, and rivers across the Nation—are victims of “techno-illogical” advance: The dumping of sewage, industrial waste, dredging and the runoff of nitrogen fertilizers. Miles of Erie are so choked with algae that all other marine life is strangled. Ecologists tell us the lake is doomed if immediate, massive help is not forthcoming.

Water pollution continues to be one of the Nation's most critical problems, yet we are failing to meet the crisis.

And it is only one of the environmental tragedies threatening our country. While algae and waste products choke life from our waters, automobile and industrial fumes are choking life from the air we breathe. Management of our air environment depends on a knowledge of how contaminants flow, disperse and are converted into other physical and chemical forms, and how they can be contained. Our knowledge is woefully scant in this field but we do know that air pollution is literally poisoning the lungs of millions of urban dwellers.

We only are beginning to realize the deadly dangers of pesticides and their residual effects on the food we consume. And we just are beginning to recognize the long-term consequences of the destruction of topsoil in strip mining.

These problems demand the sort of legislation we are acting on today, if we are to reverse the collision course with catastrophe we are following. I am particularly impressed by the scope of the proposed Council—to set forth “the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, land, range, urban, suburban and rural environment.”

I endorse this legislation wholeheartedly and urge the House to give H.R. 12549 its unanimous support.

Mr. DINGELL. Mr. Chairman, I yield 1 minute to my good friend, the gentleman from Connecticut (Mr. DADDARIO).

(Mr. DADDARIO asked and was given permission to revise and extend his remarks.)

Mr. DADDARIO. Mr. Chairman, I would like to ask the gentleman from Michigan a question.

The gentleman in his earlier remarks referred to a bill in the Senate which I presume was unanimously passed and which I further presume was the bill submitted by Senator Jackson.

Mr. DINGELL. The gentleman is correct and that bill is now on the Speaker's desk.

Mr. DADDARIO. I had the impression that the gentleman referred to that bill as being identical to the bill now under consideration.

Mr. DINGELL. I said “substantially identical,” or “substantially the same.”

Mr. DADDARIO. In being substantially identical, would the gentleman indicate whether or not this bill includes in it

title I of the bill which was passed by the other body?

Mr. DINGELL. The bill now before this body, I will say to my good friend, the gentleman from Connecticut, does not include the same policy statement, but H.R. 12549 does include a policy statement which the subcommittee and the committee regarded as being extremely valuable in accomplishing the thoughts set out in the policy statement in the Senate bill.

Mr. DADDARIO. Mr. Chairman, it is my feeling that the policy statement which is included in the Senate bill is an extremely important part of that legislation, and that it ought to be included in the legislation which is passed here in the House.

The CHAIRMAN. The time of the gentleman has expired.

Mr. DINGELL. Mr. Chairman, I yield 30 additional seconds to the gentleman from Connecticut.

Mr. DADDARIO. Mr. Chairman, it is my intention to offer an amendment for that purpose, and I intend to do so unless I could have assurances here that the committee in conference on this particular matter would take into serious consideration an adjustment to the Senate position in this regard.

Mr. DINGELL. I have to say in response to the inquiry of my good friend, the gentleman from Connecticut, that the conferees are not yet constituted. If I happen to be a conferee I certainly will look with sympathy with regard to the statement of policy in the Senate version. But I am sure the gentleman from Connecticut is aware of the fact that the managers on the part of the House cannot go forward without specific instructions from this body.

Mr. PELLY. Mr. Chairman, I yield such time as he may consume to the gentleman from Oregon (Mr. DELLENBACK).

Mr. DELLENBACK. Mr. Chairman, I thank the gentleman for yielding.

It seems to me, Mr. Chairman, that far too infrequently do we have measures which come before us which are both important in concept and also urgent in concept. Sometimes we deal with important matters that do not appear urgent, and sometimes we deal with urgent matters which on a broad measure may not be truly important. But I think in this measure today we have a measure which is both truly important to the future of this Nation, and which is also urgent.

In addition to that, if you will, we have an issue about which many of the people of this Nation are becoming, I think understandably and properly, deeply concerned.

When we deal with this basic concept of the environment we have something that we still can control in America, and do something about, and yet we have delayed in some areas of this Nation far too long in doing what we ought to be doing. We have a hodgepodge of information. We have a hodgepodge of tradition. We have a hodgepodge of laws which sometimes conflict with each other, and do not go about dealing properly and effectively with this problem which is a nationwide problem, and not

a problem of isolated areas. We do not deal with it on a constant basis.

The bill that is before us dealing with providing a Council on Environmental Quality is an attempt to make order out of chaos. I believe that we in the House of Representatives would be derelict if we did not view this problem in its importance and in its urgency, and pass this bill today.

As a member of the subcommittee, and as one of the cosponsors of the bill, I urge my colleagues in the House to join today in fast action by approving H.R. 12549.

(Mr. DELLENBACK asked and was given permission to revise and extend his remarks.)

Mr. DON H. CLAUSEN. Mr. Chairman, will the gentleman yield?

Mr. DELLENBACK. I yield to the gentleman from California.

(Mr. DON H. CLAUSEN asked and was given permission to revise and extend his remarks.)

[Mr. DON H. CLAUSEN addressed the Committee. His remarks will appear hereafter in the Extensions of Remarks.]

Mr. DELLENBACK. Mr. Chairman, I yield back the balance of my time.

Mr. DINGELL. Mr. Chairman, I yield 5 minutes to the distinguished chairman of the Committee on Interior and Insular Affairs, the gentleman from Colorado (Mr. ASPINALL).

(Mr. ASPINALL asked and was given permission to revise and extend his remarks.)

Mr. ASPINALL. Mr. Chairman, I do not want to appear as a wet blanket to what appears to be more or less of a love feast going on in the debate on a very important matter before the Committee at this time.

I doubt if anybody can really take exception to trying to protect our environment and at the same time trying to get man to realize his responsibility in protecting his environment and, also, at the same time to fit man into the necessary environment of this world.

This is a very complex matter on which we are spending a very limited amount of time today. I think it is only fair that the RECORD show how it developed.

By Executive order of May 4, 1966, the then President established the President's Council on Recreation and Natural Beauty, and at the same time he established the Citizens' Advisory Committee on Recreation and Natural Beauty of which the distinguished citizen of New York, Laurence Rockefeller, was appointed as Chairman.

Then by Executive order of May 29, 1969, the present President saw fit to abolish the then existing Council and Advisory Committee and established the Environmental Quality Council, and at the same time he established the Citizens' Advisory Committee on Environmental Quality and at such time the President appointed the distinguished gentleman from New York, Mr. Laurence Rockefeller, as its Chairman.

Several of our colleagues in the Congress, one of whom is our distinguished

colleague from Michigan, Mr. DINGELL, introduced bills in both Houses seeking to have the Congress of the United States assume some responsibility in this matter.

It so happens that the matter of jurisdiction is all wrapped up with the five or six very important standing committees of the House of Representatives. The same situation exists in the other body. We find in this body that the Committee on Interior and Insular Affairs was given the legislation having to do with legislation that was presented in the other body, and the Committee in the other body on Interior and Insular Affairs handled its own legislation and received the approval of the other body.

But before they sent it over to the House they struck the title of the bill and inserted a new title which left it open generally to all the committees in the House having jurisdiction on the subject of environment.

The distinguished Committee on Merchant Marine and Fisheries of the House had their own bill. They got to work on it very effectively and it is now before this committee for consideration.

Because of various, I think, inadequacies and some controversy concerning the legislation, I shall seek to offer some amendments, only two or three of which are of substantial importance. The rest of them are clarifying amendments.

But I do think it is important to be advised that this legislation is not substantially identical as my good friend, the gentleman from Michigan states, to the Senate bill; that there is quite a bit of variance between them. But the differences between the two are, in my opinion, such that they can be ironed out by a conference committee between the two Houses. I am relying on that conference committee to help to take care of these differences.

I would ask my distinguished friend, the gentleman from Michigan, if he considers after we have passed this legislation—let us say that we do—and the President of the United States approves it, will there be any need at that time for the existence of a President's Environmental Council or a Citizens' Advisory Committee or Council on Environmental Quality?

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. ASPINALL. I yield to the gentleman.

Mr. DINGELL. This matter was discussed in considerable detail with Dr. DuBridge, the President's Science Adviser. At that time Dr. DuBridge said there are two different functions, and his full quotation will appear at the bottom of page 4 and the top of page 5 of the committee report, wherein he pointed out that the function of a Cabinet-level advisory committee was one which could iron our difficulties and differences within the Cabinet, whereas the agency before us now has a much broader function, that is, one of establishing the whole national policy in this area, reporting to the Congress and providing an interplay by and between the Congress, the people, the President, and, of course, the agency itself. I would have to defer to the President as to the matter of judg-

ment as to whether that particular agency should continue to exist or not. I think this is a matter that will have to be taken care of in conference, it so happens.

To date this body, the House of Representatives of our Federal Congress, has failed this year to provide any funds for the continuance of the activities of the President's own Environmental Quality Council, and the Citizens' Advisory Committee on Environmental Quality headed by Mr. Rockefeller. The reason we find ourselves in this particular situation is because there seems to be no authorizing legislation which would directly authorize the appropriation.

I am sure the Subcommittee on Appropriations of the House Committee on Appropriations would like to make the appropriation if they had some method of doing so. If there is this need, we should take care of it in conference.

The CHAIRMAN. The gentleman from Michigan is recognized.

Mr. DINGELL. Mr. Chairman, I reserve the balance of my time.

Mr. PELLY. Mr. Chairman, I yield 5 minutes to the distinguished gentleman from Pennsylvania (Mr. SAYLOR).

(Mr. SAYLOR asked and was given permission to revise and extend his remarks.)

Mr. YATES. Mr. Chairman, will the gentleman yield?

Mr. SAYLOR. I yield to the gentleman from Illinois.

(Mr. YATES asked and was given permission to revise and extend his remarks.)

Mr. YATES. Mr. Chairman, I strongly support H.R. 12549, to establish a Presidential Council on Environmental Quality. It will be a most useful step in focusing the people's attention on the urgent need to stem the steadily deteriorating physical birthright of this generation of Americans and generations to come. The fact that our environment is really an interacting ecological system of dependent parts must be acknowledged and our efforts to restore it must be immediate and thorough.

We can and must restore the integrity of our natural environment. I would therefore hope that the Council on Environmental Quality, when created, will act as an ardent advocate of the need to protect our besieged natural resources, and not merely as a study group.

The establishment of a Council by the President will give Mr. Nixon the opportunity to seize the initiative in restoring the quality of our environment.

He must not fail this important responsibility, so that there will be a commitment to the establishment of a livable, decent environment by other political leaders, by scientists, and private citizens. The progress of technology must take into consideration the needs of the community.

The Ninth Congressional District of Illinois, which I represent, is in many respects a cross-section of urban America. It stretches along Lake Michigan from the Chicago River to the northern city limits containing a rich mixture of ethnic and cultural communities, teeming with life and a desire to make things better. There are industries, factories, uni-

versities, elegant stores on Michigan Avenue and small shopping areas. All in all, the Ninth Congressional District is one of America's unique places.

But my constituents, as the price they pay for living in a thriving industrial center like Chicago, are forced to breathe air that is little less than poisonous. In the United States only New York's air, if one can so designate its envelope of pollution, is dirtier. There are Federal, State and local air pollution statutes, but so far, in spite of these, the situation is only beginning to be checked. Unclean air takes its toll in respiratory diseases, in cleaning and laundry bills, in building exteriors which are covered with layer upon layer of industrial grime and soot.

Invasion of our part of the lake from the north and the south has been threatening for some time. This summer that part of the Lake Michigan shoreline which forms the eastern limit of the ninth district was suitable for swimming. But to the north and to the south along that same shoreline a dip in the lake involved the risk of bacterial infection. Unless some action is taken soon to reverse the spread of pollution in the southern end of Lake Michigan, my constituents will be subjected to that risk which is a shocking and unacceptable development. The invading contamination must be hurled back no matter what the cost for the lake as a national as well as our local treasure. Industrial polluters must be held to their responsibilities for a prompt cleanup.

But air and water pollution are only two environmental problems with which urban Americans are faced. It is up to us to make our cities cleaner, quieter, less crowded, and more human. We have some basic rethinking to do if we are even going to have a chance at making it all work.

For instance, we are going to have to learn how to recycle our industrial waste products instead of pouring them into the air or into our water supplies where they act as pollutants. To cite a single example, we vent into the atmosphere each year approximately 12 million tons of sulfur worth half a billion dollars. During that same year we extract 16 million tons of sulfur from the earth to support our modern civilization. The reasoning behind that paradox is that it is less expensive to mine new sulfur than it is to recover the old sulfur from industrial wastes. But somehow nobody mentions that pollution costs this Nation more than \$20 billion annually in strictly economic terms. Its human costs are incalculable.

We have to recognize the uselessness of passing new air pollution legislation on the one hand and building new highways into the city on the other. What is accomplished if a new air pollution law cuts down the hydrocarbon content of automobile exhaust by 10 percent while new highways concentrate 10 percent more vehicles in the cities?

In the past we have always assumed that our water resources should be used to absorb industrial wastes, and in many instances the result has been to make them useless for any other function. The situation has reached the point now in the area of water quality that we must

demand that nondegradation standards be adopted nationwide. A nondegradation standard means quite simply that any further degrading of the present state of water quality anywhere in the country is against the law.

Mr. Bertram C. Raynes, vice president of the Rand Development Corp., says of industrial polluters:

The only sensible policy now is to force them to take care of their wastes properly. Simply to require that the water they dump be pure, regardless of its condition when they receive it. That the gases they vent be free of pollution. That their spoil doesn't in turn despoil other property or remain ugly, regardless of how poor the area might have been when they undertook their operations. Instead of comforting the public with statements to the effect that "there is no evidence that these pollutants have unfavorable effects upon humans," let's see some evidence that they are definitely not harmful.

When Congressmen brought up the inadequacy of technology to combat pollution in some cases, and asked Mr. Raynes whether he thought the laws should be passed anyway, he answered simply:

Necessity has always been the father of technology.

But no matter how much we do to make our cities more livable, they will remain cities. Hopefully, they will be a little cleaner and a little quieter—but they will still be crowded centers of activity. Cities will still have more culture than rural areas—more diversity, more dissension—more people, and more pressure.

Thus, in addition to improving the quality of urban life we must provide an alternative to it for those times when a man's spirit demands respite from the rigors and frustrations of city living. More areas will have to be set aside within and near urban areas where a man can take his family for an afternoon or a weekend or a camping trip during the summer. As our population grows, more recreation areas and parks will be required so that every American child will have the opportunity to see a duck take flight from a pond and learn the difference between an oak and a maple.

And, finally, we have to develop a new respect for our wilderness areas. As Americans, we should remember that our Nation was conceived in the wilderness and was shaped in character by the interaction of civilization and the natural frontier. Thus far in our history we have too often looked on the wilderness areas of our country—the vast stands of primeval woodlands, the powerful rivers and clear streams, the mountains and the valleys—as places where nature can be converted into profits. We have been trading away chunks of our natural heritage for short-term economic advantage.

We have forgotten that wilderness is to be valued for its own sake, as a place where man can learn about his world and his place in it. Many of our remaining wilderness areas are unique ecological systems whose balance of interaction between various animal and plant species and the physical environment can never be restored once it is impaired by a new road, a new airport, a mine, or a logging operation. There are many wilderness

areas in the United States—the Everglades, the Great Swamp in New Jersey, the Cascades, the Indiana Dunes, to mention just a few. We must protect them all.

We must reject the conventional wisdom that there is something inevitable about the whittling away of nature's wonders. Instead, as David Brower has urged:

We shall seek a renewed stirring of love for the earth; we shall urge that what man is capable of doing to the earth is not always what he ought to do; and we shall plead that all Americans, here, now, determine that a wide spacious, untrammelled freedom shall remain in the midst of the American earth as living testimony that this generation, our own, had love for the next.

Mr. SAYLOR. Mr. Chairman and members of the Committee, our distinguished colleague, the gentleman from Colorado, has explained one of the difficulties which has arisen with regard to this bill. I am satisfied that one of the responsibilities of the Congress is to establish whatever national commissions are in order. We have established others, and the mere fact that the President and prior Presidents have established councils or commissions on environmental quality should not deter this body from properly passing legislation granting congressional sanction. I believe it is the responsibility of the Congress to legislate and the Executive to carry out the mandates of the Congress.

The bill before us was so drafted that it amended the Fish and Wildlife Coordination Act, and as such, went to the House Committee on Merchant Marine and Fisheries. The bill, S. 1075, which passed the other body and is now on the Speaker's desk, and that bill which has been supported by other Members of this body, merely authorizes the Secretary of the Interior to conduct these investigations relative to the Nation's ecology, its ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality, and called for reports by that Council to the Congress.

As a result of meetings between the members of the Merchant Marine and Fisheries Committee and the House Interior and Insular Affairs Committee, practically all the difficulties between these two bills have been worked out, and as Mr. ASPINALL explained he has a series of perfecting amendments which will, in substance, change the bill so that it will become, rather than an amendment to the Fish and Wildlife Coordination Act, a substantive piece of legislation in and of itself, establishing a Council on Environmental Quality.

This Council on Environmental Quality will, I believe, be of great importance. I shall tell Members just a few of the reasons why. Its work will be absolutely necessary if mankind is to survive, and we are to be informed by some of the outstanding ecologists in this country and in the world on how to establish a balance in our environment between our exploding population and the depletion of our natural resources in order to permit a continued high standard of living and the ability to share many of life's amenities. Up until this point we have not tried to have any schedule or any

program to consider the total environment of this country or even how it relates to other countries of the world.

I think it is necessary because in this country we are also exhausting some of our depletable resources, and I think it is necessary for a Council on Environmental Quality to study these depletions to determine what is the right manner in which various resources should be depleted—some faster than others probably.

These are the kinds of problems that this Council can and must solve, and must report on to the Congress, because the Founding Fathers intended this body and our counterpart on the other side of the Capitol to legislate on matters affecting the people.

For these reasons, and, with the amendments which will be proposed by the chairman of the House Committee on Interior and Insular Affairs, I support this legislation and ask that it have the united support of all Members of this body.

Mr. PELLY. Mr. Chairman, I yield such time as he may consume to the distinguished gentleman from Pennsylvania (Mr. GOODLING).

(Mr. GOODLING asked and was given permission to revise and extend his remarks.)

Mr. GOODLING. Mr. Chairman, I rise in support of this bill.

Conserving our natural resources is becoming our No. 1 domestic problem. If we destroy our environment, we destroy everything.

While various agencies may be working on this problem, we hope the Council, authorized under this bill, will be able to coordinate all work in this most important field.

I urge the passage of H.R. 12549.

Mr. DINGELL. Mr. Chairman, I yield 1 minute to the gentleman from Wisconsin (Mr. OBEY).

(Mr. OBEY asked and was given permission to revise and extend his remarks.)

Mr. OBEY. Mr. Chairman, I rise in support of H.R. 12549, to provide for the establishment of a Council on Environmental Quality.

It is because of my conviction that a Council of this type is necessary that I authored a proposal identical to the one by the gentleman from Michigan (Mr. DINGELL) and others that we are debating today. I do not believe that we can any longer afford to give our environment little more than passing attention. There are those who already feel that because of population pressures, new technology and an inadequate public and private desire, we are, in fact, already overwhelmed by the problem.

Last week, Col. Edwin Aldrin stood before us in this very Chamber and stated:

The Apollo lesson is that national goals can be met where there is a strong enough will to do so.

The passage of this legislation should signal that we do have the will to preserve our environment.

It would establish a Council whose sole purpose is to consider implications for our environment when decisions are made by the private sector of our econ-

omy and by other departments and units of Government. For too long we have given economic considerations greater weight than environmental considerations and the result is surely becoming obvious for even the most shortsighted among us—a tasteless environment and an injured one.

Some questions have been raised about this proposal on the grounds that this new Council will conflict with the Interagency Environmental Council recently established by the President. They say that there is no real difference between the tasks or the organizations of the two. I do not believe this is true.

One difference concerns the composition of the President's Council. That Cabinet-level Council is composed of very busy men with vast governmental agencies to run. That committee cannot be expected to do the long-range planning and does not have the training and expertise needed to delve into the complex problems of the environment.

The other difference is one which any legislator who has ever dealt with a bureaucratic department should understand. Any department of Government is concerned first of all with the programs within its jurisdiction and only secondarily with the implications which the carrying out of its programs have on others areas of concern. The great danger presented by an interagency Council of the type proposed by the President is that when you get people from various Government departments sitting down at the same table they will be tempted to say to each other, "you stay out of my bureaucratic backyard, and I will stay out of yours."

As a consequence of that attitude, environmental considerations will be given little weight. The main goal of each of the participants is likely to be the protection of his jurisdiction from outside interference rather than the preservation of our environment.

This problem is not necessarily unique to the question of the environment. In Wisconsin several years ago we faced the same argument in the field of mental health.

When considering whether to have an interagency committee on mental health or a coordinating committee on mental health with outside experts as members, the Wisconsin legislative committee which recommended the creation of the advisory committee said:

It is apparent that *stimulation and coordination* in the field of mental health is imperative; this stimulation and coordination cannot be expected from one of the departments engaged in mental health activities nor from a commission composed exclusively of representatives from the departments involved.

In addition to the need for stimulation and coordination, there is a need for *constant evaluation and research* of all mental health activities and programs.

These words are as true for a consideration of the environment as for the consideration of mental health problems.

Stimulation into new avenues of research can only come from the outside because it is impossible for those who are involved with departmental programs to evaluate them without bias. It would be

unlikely, to say the least, to expect an individual to engage in a critical review of another department or policy if that person knows he will be subject to the same critical review by his colleagues a few days later. Evaluation of government programs is a sensitive job and one which cannot be carried out effectively solely by those who have a special stake in the outcome. For these reasons, while I commend the President for his initial action, I feel the Congress must take further steps.

This bill would minimize bureaucratic back scratching. For that reason, I strongly support the measure before us today. I congratulate the gentleman from Michigan (Mr. DINGELL) and the other authors of the legislation, and I would like to especially commend the members of the Merchant Marine and Fisheries Committee and its able chairman, the gentleman from Maryland (Mr. GARMATZ).

There is more that can be done in environmental quality and I would like to see a stronger bill. But this legislation will be a good first step in our newly found willingness to attack the environmental problems before it is too late.

Mr. DINGELL. Mr. Chairman, I yield 1 minute to my good friend the gentleman from New York (Mr. BIAGGI.)

(Mr. BIAGGI asked and was given permission to revise and extend his remarks.)

Mr. BIAGGI. Mr. Chairman, this bill, H.R. 12549, is another valuable contribution from the Congress to the array of administrative forces against pollution and other threats to the continued quality and productivity of our environment. These two concepts are the essence of the issue. Quality—because we must restore and maintain the diversity and vitality of all the living landscape. Productivity—because we are a burgeoning technological society with great dependence on natural resources. If we cannot harmonize our civilization with the principle of ecology then nature, and not mankind, will ultimately dictate the course of events.

I have been proud of the leadership shown by the Congress in environmental affairs. The Air Quality Act and the Water Quality Act were developed over a decade of legislation. Scenic rivers and scenic trails laws have originated in this branch of Government. Modern agricultural practice, mining and forestry laws, and natural beauty protection have evolved from the hearings and debates of various committees.

Thus, the Council on Environmental Quality is one more necessary governmental institution, the need for which has been recognized by the Congress. This is not to disparage in any way the efforts of the President and his Cabinet coordinating group. The support of the executive agencies is essential if action programs are to be carried out in consonance with a national policy for environmental enhancement.

But an advisory council such as provided by this bill, with a statutory link to the Congress and an independence from Federal departments, will fill a unique role. It will collect, evaluate, and

present authoritative data in an annual report on the status of the environment. It will serve as a channel of information from State and local governments, private industry, and citizens groups. It will take a long-range view with no need to sacrifice our natural heritage to political or economic expediency.

I strongly endorse the Council on Environmental Quality and urge the adoption of this measure.

Mr. MINISH. Mr. Chairman, I am pleased to support H.R. 12549, a bill providing for the establishment of a Council on Environmental Quality within the Executive Office of the President.

Not only is pollution worsening, but so far we have not done anything to insure the ecology problems are carefully studied. It is not enough to dip cleansing agents into a stream, or try to swish the air clear with a spray. To achieve the desirable result, the eventual affects of such actions upon living organisms must be studied. I believe H.R. 12549 makes a good start in this direction.

The Committee on Merchant Marine and Fisheries, which reported out H.R. 12549, says:

The problem is deep and it touches on practically every aspect of everyday life, economic, scientific, technological, legal and even interpersonal . . . it is a problem which we can no longer afford to treat as of secondary importance . . . if we are to reverse what seems to be a clear and intensifying trend toward environmental degradation.

These significant facts must be acknowledged.

The administration has recently established an Inter-Cabinet Environmental Quality Control Council. However, it is patently clear that the Secretaries of the Interior, Agriculture, Health, Education, and Welfare, Transportation, Housing and Urban Development, and Commerce, together with the Vice President and the President, all of whom will serve on the Council, will have little enough time to devote to the subject of a stable and healthful environment.

Science Adviser Dr. Lee A. DuBridge has testified that he hopes to have a staff of six professionals and an equal number of supporting clerical staff assigned to this Council. The Committee on Merchant Marine and Fisheries has suggested 55 professionals and 20 to 30 clericals as a workable number of members for the Council on Environmental Quality set up under H.R. 12549. Although it is good to know that the administration is interested in this overriding issue, I would be set more to ease were I to know that the Congress had shown its intent by setting up a Council with its complement of staff. The staff under this Act would entirely devote itself to the problems at hand.

At recent hearings on H.R. 12549, Dr. David M. Gates, director of the Missouri Botanical Gardens and chairman of the Board of advisers to the Ad Hoc Committee on the Environment, said:

It is not unlikely that our generation or the next one or perhaps the one after will have reached the pinnacle of quality and after that it will be a downhill slide. There is a finite amount of energy to be consumed. There are a finite number of resources.

Something must be done. That is why I support H.R. 12549 unreservedly. Too much is at stake.

Mr. DOWNING. Mr. Chairman, I am one of the sponsors of this bill and I enthusiastically support the purposes and the goal which it seeks to achieve.

Very simply, the bill creates a Council of five members appointed by the President, who will analyze environmental information and recommend national policy to promote the improvement of our environmental quality. The Council will report directly to the President and he, in turn, will report the findings and recommendations to the Congress.

I have no doubt that such a Council is necessary. The President has many advisors available to him with knowledgeable experience in all fields. He does not, however, have a panel of advisers whose main concern in the environmental problems of our Nation and the world. For the sake of our Nation's health, it is imperative that he have this advice.

As has been stated previously, mankind is playing an extremely dangerous game with his environment. Unless he stops, unless he changes his ways, he faces a strong possibility of extinction. Our industrial revolution has given us a magnificent technological progress that staggers the imagination. But along with benefits it has brought deterrents and we must realize this.

Jamestown Island, the site of the first landing of the colonists in America, lies within my district. Several years ago, a well-known artist was commissioned to paint the scene of the three small ships at anchor in the James River as it appeared over 350 years ago. He did so, executing a beautiful painting showing the tiny ships on a blue James River. I am told the local committee questioned accepting it because, as every one knows, the James River is grayish in color—not blue. When the artist was questioned, he sincerely answered, "It was blue then." We shall not see a blue James River again but hopefully it will not get any grayer.

Man must learn to live in harmony with his changing environment. This bill is a step in the right direction.

Mr. BENNETT. Mr. Chairman, I am pleased to support H.R. 12549, a bill to create a Council on Environmental Quality, and I congratulate the chairman and committee for reporting it to the House. This legislation will provide for a permanent agency in the Executive Office of the President to work toward a national policy to relate man and his work to the total environment.

This is an important first step in defining protected areas where Americans can live and enjoy happy and productive lives. The five-member Council will be charged with insuring our citizens of open and naturally attractive areas they and their children and future generations can enjoy.

The population explosion, the movement from the towns to the cities, natural changes and industrialization have transformed our Nation into an environmental hodgegoblin.

We are now living a nonquality life because our builders and leaders have

moved too fast with brick and mortar with little regard to what changes have been made in our living space.

It is primarily a matter of how fast or how long one wishes to live at certain quality—

Dr. David M. Gates, director of the Missouri Botanical Gardens, said in the hearings on the bill—

One can live high and short or slow and long. Civilization cannot do both.

It is obvious we are living high and short. We are doing this with little planning and thinking about the quality of our lives. I like what Don Marquis wrote:

If the world were not so full of people, and most of them did not have to work so hard, there would be more time for them to get out and lie on the grass, and there would be more grass for them to lie on.

What we are considering today is where the grass will be in another generation. I believe this bill, which is similar to one I introduced in the 89th, 90th and 91st Congresses—to provide for a study of our ecology—will develop the type of program and national policy to make sure we will live in "America the Beautiful."

Mr. DADDARIO. Mr. Chairman, the bill under consideration reflects the broad concern of the public and of the Congress over the quality and productivity of our natural environment. It seems quite probable to me that we will pass some version of this legislation. I intend to vote for it.

However, there is a serious deficiency in the bill as reported out of the committee in that it lacks a statement of national environmental policy as presently interpreted by the Congress. Not to include such a statement would be to miss a great opportunity to lead this Nation out of the complex of program objectives which bring about present environmental degradation. The resolution of conflicting agency activities cannot be accomplished easily unless there is a commonly accepted policy guideline.

If the House does not endorse a policy position today, I am sure we will be faced with such a requirement when this bill goes to conference with the Senate. It is unnecessary and improper that we be put in that position since the diverse hearings of the past few years before several House committees have established the basic principles of environmental policy.

When we held hearings on Environmental Council bills before our Science Research and Development Subcommittee in 1968, we deferred action at that time because it was not clear as to what organizational changes would be made in the executive branch. Last summer, in the Joint House-Senate Colloquium on a National Policy for the Environment, it became apparent that, regardless of organization, a strong policy statement was desirable and that it was the responsibility of the Congress to take the lead in formulating this policy.

The report from the colloquium suggested elements of national policy and these were forwarded by me for comment to the administration. On April 24, 1969, I received a detailed reply from

the Executive Office of the President endorsing the congressional policy suggestions and adding several important elements. I inserted this correspondence in the CONGRESSIONAL RECORD on May 20, 1969, page H3854.

The general agreement on these elements of policy was further evidenced by the language in title I of S. 1075, passed by the Senate and sent to the House in July 1969. Believing that particular words are unimportant as long as the principles are the same, I adopted title I of S. 1075 as title I of my bill, H.R. 13272, the Environmental Quality and Productivity Act of 1969, introduced for myself and the gentleman from Ohio (Mr. MOSHER) on August 1, 1969. On that date I documented in detail the 3-year history of our committee work in environmental affairs—CONGRESSIONAL RECORD, August 1, 1969, page H6742.

The Members of this House must recognize the great interdependence of man and his environment and the ultimate requirement for harmony between his actions and ecological principles. We should recognize a human right to a healthful environment and a personal responsibility for preservation and enhancement of these values.

We must call on all agencies to conform their activities to these policy statements. This directive should provide an administrative route for redress of grievances by citizens groups who now must go to court in order to bring the rights for environmental quality into balance with Federal or private operations.

The original of national policy for the environment can be traced back over the past several years. There was apparent a growing concern of citizens everywhere that the earlier guidelines of economic exploitation were yielding byproducts of determination, pollution, and esthetic offense. Many organizations in government and the private sector began studies and programs to describe the cause and effect relationships between society's actions and environmental quality. At the same time, increased productivity from the landscape was demanded by a growing world population and desire for higher living standards. These studies found that environmental quality and productivity go hand in hand. In fact, in the long run the most productive environment is one which is kept at a high state of quality.

Therefore I call on the sponsors of the subject bill to include a strong policy statement when this bill comes back to the House from the conference committee. In doing so, the House will stand with the Senate in a position of leadership, serving notice on the executive agencies which come before our various committees that the entire Congress has agreed to restore, maintain, and enhance the quality of air, water, and land resources for continued productivity and enjoyment of our society far into the future.

Mr. Chairman, the bill being considered under the rule would authorize the President to appoint a five man Council on Environmental Quality. The amendment offered by the gentleman from Colorado (Mr. ASPINALL) would omit the necessity

of the President seeking the advice and consent of the Senate for these appointments.

In my opinion, the amended bill would also leave the President free to appoint at least five members of his present Citizen's Advisory Committee on Environmental Quality to the newly established Council on Environmental Quality. Such flexibility would satisfy, to a degree, the provisions in my bill, H.R. 13272, which would have provided a statutory base for the Citizen's Advisory Committee on Environmental Quality. My purpose was to preserve the momentum of executive branch activities recently initiated by the existing cabinet council and the citizen's advisory group. I have been concerned that the congressional action under discussion might be viewed as confusing, duplicative, and unnecessary. However, if my interpretation is acceptable, the valuable talents in the group headed by Mr. Laurance Rockefeller could continue to serve as a channel for public and congressional inputs. The bill would provide staff services, just as was intended in my proposal.

Adequate help in gathering and interpreting the factual data base for environmental management decisions is essential. I would agree that the Office of Science and Technology, with its present limited budget must be augmented. This is not to say that Dr. Lee DuBridge, Dr. John Buckley, and other staff members involved are not extremely valuable in this role. They are doing excellent work and we must give them more assistance.

There is a question in my mind as to whether full-time service on the Council established by this bill is necessary. The role of the Council is in long-range planning and to act as a watchdog for the public and the Congress on the activities of the Federal departments. The best persons for these tasks may not be available to serve full time but would be willing and able to contribute on a part-time basis as does the present advisory committee. As I read the bill there is no requirement that the Council members serve full time, having no other employment.

Another minor problem in this bill is that the President has named his Cabinet group the Environmental Quality Council. This bill creates an independent Council on Environmental Quality. The obvious confusion in names for these groups with distinctly different duties is unfortunate. I would hope that the sponsors of the bill would in conference rename the congressionally established group as something other than a council.

Mr. DONOHUE. Mr. Chairman, because it is unquestionably in the immediate and longrange urgent national interest I am supporting this bill before us, H.R. 12459, to create a Council on Environmental Quality and I hope the House will overwhelmingly approve it without extended delay. This measure recognizes and responds to the imperative necessity to legislatively initiate a strong, independent review of our total environment, the causes by which that environment has become increasingly

dangerous to human life from pollution and poison and the means through which we may begin to meet these dangers in order to prevent our own unwitting self-extinction.

Let us emphasize that, at present, there is no unit or commission or other body in existence that can provide this Nation and our Government with an abstract, critical appraisal of various Federal programs and activities related to the environment and from which we could receive broad policies and recommendations for expedient improvement of our environment.

Mr. Chairman, it is universally recognized and admitted that our complex environmental issues and answers require legal, economic, social, management and systems analysis as well as scientific study in order to be of realistic value and effect.

Every school child and adult in this country is well aware that the advance of modern technology, however great its material benefits, has been unrestrained in its accompanying afflictions upon us through byproducts that increasingly poison our air and pollute our waters. The Federal Government has spent vast sums of money on different aspects of and approaches to this critical national problem. Yet there is no independent source of review of the total environmental situation nor any agency to provide the President and the Congress with an estimation of the priorities that should be assigned and the activities that should be coordinated to meet and overcome this problem.

In considering this measure before us, the House is demonstrating its interest and concern that every American has a fundamental and inalienable right to a healthful environment. In approving this bill the House will be fulfilling its legislative duty of insuring that this right will become a reality in the most prudent manner at the earliest date. I most earnestly urge my colleagues therefore to speedily adopt this measure which I believe is imperative to the public interest and our national survival.

Mr. COHELAN. Mr. Chairman, it is a pleasure to rise in support of H.R. 12549, the bill to establish an Environmental Quality Council.

I think we are all pretty much in agreement in this House on the need for such a Council. All we need to do is pick up the newspapers or take a good look around us and we read or we see deterioration of our environment. For the most part, it is a deterioration caused by man.

We are only now beginning to feel the impact of overpopulation. We know that the effects of this problem places great stress on our existing institutions and facilities. Our real problem is trying to produce goods and services sufficient and suitable to man's needs.

We read of smog-filled cities and of polluted waters, a serious danger not only to mankind, but also to all wildlife and plantlife. We continue, almost unchecked to mar and deface our landscape and to ruin and destroy the few remnants of natural beauty remaining. We know the dangers of radioactivity

and nuclear testing; dredging and filling of productive estuaries; drainage of wetlands; deforestation and soil erosion; defacing of land through stripmining; and ground water depletion.

Such development must no longer be allowed to go unchecked. We are fast becoming a victim of our own technology and progress. Man and his environment are vital to each other; the development and protection of one is dependent on the development and protection of the other.

The proposed five-man Council would provide a broad and independent overview of existing and potential problems that affect the quality of our environment. The bill would also require the Council to report annually to the President on the status of various aspects of the American environment. The President is required by this act to submit an annual report to Congress on the condition of the environment, current and long-range trends, utilizing the environment, and an evaluation of the impact on these trends on national requirements. The Council itself would maintain a continuous review of Federal policies and activities that influence quality and will have the authority to conduct studies that are deemed necessary to carry out its mandate. I feel that the establishment of an independent Council will also assist in the coordination of various Federal programs and provide a means in assisting in resolving internal policy disputes. The Council, in short, will provide additional assistance for both the President and Congress in meeting the environmental problems that have been created by advancing technology.

Mr. Chairman, I submit that this bill to establish an Environmental Quality Council is a most valuable addition to attempt to solve the most serious problems of environmental pollution. I urge the adoption of this measure by this Chamber.

Mr. FREY. Mr. Chairman, even as we gather here today, the quality of man's environment on earth is slowly decreasing. While such ecological disasters as the ruptured oil well off the Santa Barbara coast make the headlines and bring about a national concern, we must also be concerned about the environment on a long-range basis. The deterioration of the various facets of man's environment is becoming more and more noticeable. The coastal zone which surrounds so much of Florida is a prime example of this deterioration. Pollution of outlying regions and its effect on inland waterways, the washing away of literally hundreds of feet of beautiful beaches by waves, hurricane damage and the incorrect utilization of the delicately balanced ecology which forms the habitat of important fish and wildlife are only a few examples.

Marine environmental problems and their solutions will become even greater as private industry more and more realizes the wealth which lies beneath the ocean floor. And this is only one of our environments. One of the more important general questions relative to man's

environment is whether or not the world's population will have enough to eat in the 21st century and beyond.

Our Federal, State, and local governments have spent great amounts of money in efforts to define the various problems in the environment and then arrive at workable solutions. This bill, H.R. 12549, will provide us for the first time with a council which will make an independent review of the total environmental situation and provide both the President and Congress with an estimation of the priorities which should be assigned to the various aspects of the problem. I urge your support of the legislation.

Mr. MONAGAN. Mr. Chairman, I am supporting the bill (H.R. 12549) to provide for the establishment of a permanent Presidential Council on Environmental Quality. This bill is an important first step in formulating a national policy for environmental quality.

The Council on Environmental Quality would oversee Federal, State, and local programs aimed at improving the environment and would assist the President in the preparation of an annual message to the Congress on the state of the environment, just as the Council of Economic Advisers assists the President with his annual message on the state of the economy.

I welcome these legislative steps toward the creation of a national policy for environmental quality and a governmental capability to implement that policy. I am especially gratified that this bill under consideration includes essential provisions of my own bill, H.R. 13826, for environmental quality improvement. A permanent Presidential Council on Environmental Quality, as recommended both in my bill and in the one now under consideration, must be established to oversee and coordinate the multiple and often conflicting programs pursued by the different levels of government to improve different aspects of the environment.

We need to develop on the part of Government an anticipatory capability; we need to go beyond reacting to specific crisis situations in the environmental field. It is far cheaper in human, social, and economic terms to anticipate these problems at an early stage and to find alternatives before they require the massive expenditures which we are now obligated to make to control water, air and land pollution.

My own bill was tailored to begin developing this anticipatory capability and I would hope that future legislation in this field would follow this route. To achieve this anticipatory capability I recommended that the Secretary of the Interior be authorized to conduct studies of natural environmental systems in the United States, to document and define changes in these systems, and to develop and maintain an inventory of natural resource development projects which may make significant modifications in the natural environment.

Further, I recommended that the Secretary of the Interior be directed to establish a clearinghouse for information on ecological problems and to dis-

seminate information about programs related to those problems.

Also, I recommended that the Secretary of Health, Education, and Welfare be authorized to establish a comprehensive solid waste management program which would coordinate all such research now being done under a number of different Federal programs. Another recommendation of mine directed the Secretary of Health, Education, and Welfare to compile a national inventory of solid waste management needs and problems and of solid waste management technology.

In addition, I recommended that the Secretary of Health, Education, and Welfare establish a clearinghouse for information on all aspects of air, water and soil pollution and solid waste disposal. This information would be made available to business, industry and municipalities, and the general public. These are the kind of provisions which would help to develop and anticipatory capability and I would hope that future legislation in the environmental field would include them.

Mr. LEGGETT. Mr. Chairman, the ever-increasing expanse of mankind and man's undirected use of technology pose a direct and definite threat to man's very existence.

The tragedy of Lake Erie and the Potomac River are but limited examples of man's shortsighted use of technology. Technology that was implemented for the betterment of man's condition and quality of life has created problems of air, land, and water use that threaten to cause irreparable harm to his environment.

The Federal Government has spent vast sums of money in recent years in an effort to meet a limited number of these problems and will likely increase its efforts in the future. However, at present, there is not an independent agency or review board that can review the total environmental situation or provide the President or Congress with an estimation of the priorities which must be assigned to different aspects of the problem.

There are numerous instances, such as the Peripheral Canal project in California, where a Federal project designed to deal with the need for an expanded water supply in the southern California region may not have fully taken into consideration the affect of the water removal on the Sacramento River Basin.

This bill would require the President to transmit to the Congress an annual environmental quality report concerning the status of various aspects of the American environment and their impact on other national requirements.

The bill would also require the Council to maintain a continuing review of Federal policies and activities with environmental implications.

When a Federal project, such as the Peripheral Canal project, irreversibly changes the ecology of a vast region there needs to be in depth study of the total environmental effects of such a program.

On May 29 of this year the President, by Executive order, created an interde-

partmental Council on Environmental Quality. While there is a definite need for an interdepartmental Council to resolve internal policy conflicts between mission oriented executive agencies, that is not the purpose of this legislation.

There is a definite need for a consistent and expert source of review of national policies, environmental problems and trends, both long and short term. The problems that need to be solved are several times larger than those which can be adequately dealt with by this interdepartmental Council. In addition, they are problems which will require full-time expertise and attention—expertise and attention which ought not to be devoted to other problems.

An overwhelming need exists for action to be taken in this area. No other organization, in existence or contemplated shows any sign of meeting that need. It is for that reason that I urge immediate passage of this legislation, H.R. 12549.

Mr. BOLAND. Mr. Chairman, the bill which is before this House today, calling for the creation of a Council on Environmental Quality, is one which deserves the support and approval of every Member of Congress. Its purpose is one which has for too long been delayed. The issues it proposes to tackle are far too critical for the quality of life to allow us to further postpone this necessary first step toward effective control and improvement of our environment. We must act.

H.R. 12549 is not a complicated bill. Its primary purpose is the creation of a five-man council whose mission will be a continuing study and assessment of factors and trends affecting the quality of our environment. It will prepare and submit to the President an annual report on its activities, and assist him in the preparation of an annual President's report to the Congress on environmental quality, which is called for in the bill. The council will also maintain a continuing review of Federal activities and programs affecting the environment, and keep the President informed on its findings. Finally, it will recommend to the President policies to enhance the quality of our environment.

In a sense, the council will be the President's main adviser on environmental matters, in much the same manner as the Council of Economic Advisers now assists him in matters relating to the economy. That Council has been in existence since 1946, and has proved of inestimable value to the President, the Congress, and the country.

Mr. Chairman, ours is a society that has succumbed to the bewitchment of technology, a process which has transformed the world around us. Technology is widely credited with many of the good things of modern life; rising agricultural productivity, new sources of power, automation, accelerated travel, increased volume, and speed of communication, spectacular improvements in medicine and surgery—and more. Technology has greatly increased the wealth produced by human labor; it has lengthened our lives and immeasurably improved the conditions under which most men live. Little wonder that there has been en-

gendered in our society a firm faith in technology as an almost undiluted good.

There are now, however, a number of reasons to question this implicit faith, for there is a growing body of evidence that society is paying a high price in environmental pollution for the advantages that flow from the rapid spread of technology. We now know that the beneficiaries of the good that technology can do are also victims of the environmental disease that technology breeds.

Few Americans are untouched or unaware of the extent of water pollution. Many of our urban dwellers are conscious of the discomfort—even the danger—of air pollution. Few who traveled the highways of America or visited our public parks this past summer will be surprised, on reading an advertisement in *Time* magazine for September 19, to learn that each of us is producing some 5 pounds of trash every day. These are the more obvious signs of our deteriorating environment. There are other, more subtle—even exotic—examples of technology's encounters with our environment—the mysterious fishkills; the quieter, if not "silent" springs in some areas; the death of a herd of sheep in Utah; the depredations of the sea lamprey in the Great Lakes.

Our record to date is not bright. Hind-sight tells us that what we are experiencing is a logical outcome of almost-unrestrained application of technology on the once magnificent resources of a rapidly-growing country. It may be that we will never be able to restore some of the despoiled resources and the natural beauties of our country. Certainly, recovery will be a long and costly process. But if we remember that the future begins tomorrow, then the bill we are considering today offers a great opportunity to prepare for that future.

A common reference point for looking ahead these days is the year 2000. If we consider just one aspect of the predicted future—population growth which will boost our numbers to some 300 million—we know that these numbers will place almost unbearable demands on the resources and the institutions, some of which are barely able to serve today's society. If we add another dimension of the future—the impact of the predicted growth of science and technology—then the interaction of these two dimensions will surely shape a future beyond our comprehension.

We have become more aware in recent years of past and present insults to our environment. Our response has been piecemeal and often too late. Lake Erie's reputed death may be the most glaring example of our inability or unwillingness to act in a responsible manner. We have an opportunity today to prepare ourselves to deal with this kind of thing in the future.

We have more than an opportunity; we have a responsibility.

As representatives of a democratic society, we are committed to the development of policies which insure maximum individual freedom and human development. Neither of these goals can be achieved in a decaying and overbur-

dened environment. We must devise policies that take full account of the impact of technological development on the environment, and we can achieve this only if we have a clearer knowledge of what that impact might be.

The Council which this bill would create is the vehicle which can provide the President and the Congress with the kind of information which can guide us in shaping programs consistent with society's needs. The Council will also provide a vitally needed source for reviewing the total environmental situation—an "early warning" system that warns us of the effect on the environment of a particular program. Finally, it will fill the need for an agency capable of providing the President and the Congress with estimates of the priorities which much be assigned to all of the different aspects of the interaction of man and his environment.

Mr. Chairman, I hope every Member of this House will support H.R. 12549.

Mr. ANNUNZIO. Mr. Chairman, I would like to join my colleagues in urging passage of the Environmental Quality Council bill, H.R. 12549.

The purpose of this legislation is to create in the Executive Office of the President an independent advisory group to advise the President and through him the Congress and the American people on steps which should be taken to improve the quality of our environment. Although the President is in the process of organizing his Cabinet-level Council, created by Executive Order No. 11472, May 29, 1969, the legislative branch still sees the need for a permanent type council and feels that creation of this independent council would serve to complement and supplement the President's efforts.

Mr. Chairman, the Cabinet-level Council is an excellent means of communicating Executive decisions to the departments and agencies which would carry them out, but it has no potential as a means of promoting new policies, or even of investigating them, which may conflict in any way with the status quo. If the President had the time to concern himself personally with the many and complex issues with environmental implications, it is possible that the independent council that we propose might not be as important as it is. But he does not have that time, nor does his Science Adviser, and he needs a competent full-time group of advisers to assist him—men and women with commitments to no programs or missions, other than that of environmental protection.

Mr. Chairman, the problems of our environment are several magnitudes larger than those which can be adequately dealt with by the part-time council. They touch on practically every aspect of everyday life and require the full-time expertise and attention of a Council such as that envisioned by this bill. The Council closely parallels the Council of Economic Advisers, which was created by the Full Employment Act of 1946 and which has successfully proven its worth, and it is for this reason that I highly endorse H.R. 12549 and urge its prompt passage.

Mr. DINGELL. Mr. Chairman, in considering this bill today, I want to acknowledge a debt owed by our committee to an impartial and expert group of men and women who have provided us with excellent and timely assistance in our deliberations. Almost one-fourth of the membership of this House has joined the informal and unofficial Ad Hoc Committee on the Environment—a committee of concerned legislators who have expressed an interest in information relevant to the growing problem of environmental degradation. That committee now numbers 119: Democrats and Republicans, liberals and conservatives in the House as well as on the other side of the Capitol. I would particularly like to thank Mr. Frank Potter, the executive director of the ad hoc committee, who has worked closely with our committee and through his tireless efforts has made the passage of this legislation possible.

Our committee is in regular contact with 126 distinguished scientists, educators, businessmen, and conservationists, who serve as a board of advisers to our ad hoc committee. This board, which usually communicates with members of the ad hoc committee through the Environmental Clearinghouse, Inc. (a local nonprofit corporation which provides staff assistance to the ad hoc committee) provided 21 witnesses for our hearings. If time had permitted, many more advisers who had offered to appear before us would have been heard. The testimony of these advisers was almost unanimously in favor of the bill, and that testimony was a very important factor in our being able to report the bill to the floor of the House as early and as strongly as we were able to.

I cannot say whether or not we could have moved as surely or as rapidly as we have, without the assistance of these public-spirited men and women in the board of advisers. I can say, however, that they were of immeasurable assistance to us in putting the issue into proper perspective, and that much of the urgency with which we view the environmental crisis, and which we are attempting to communicate to our colleagues today stems directly from the urgency and concern expressed by this impressive body of experts.

As I say, this is a debt that I am happy to acknowledge, and I know that I speak for all my colleagues on the subcommittee as well. The only proper way that we could pay this debt would be to see that this bill, H.R. 12549, is passed as quickly as possible, and that the Council on Environmental Quality begins to move.

Mr. Chairman, in closing, I also would like to bring to the attention of the Members the recently established Environmental Policy Division in the Legislative Reference Service at the Library of Congress. Mr. Richard A. Carpenter, senior specialist in science and technology, has been appointed chief of the new division. Mr. Carpenter has been most helpful to the committee and I would like to take this opportunity to officially express my appreciation for his kind assistance and to congratulate him on his promotion. The Environmental Policy Division was established in response to increasing con-

gressional concern for the quality and productivity of the physical environment.

Mr. PELLY. Mr. Chairman, I have no further requests for time.

Mr. DINGELL. Mr. Chairman, I have no further requests for time.

The CHAIRMAN. There being no further requests for time, the Clerk will read.

The Clerk read as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Fish and Wildlife Coordination Act is amended by redesignating section 5A as section 5B and by inserting immediately after section 5 the following new section:

Mr. DINGELL (during the reading). Mr. Chairman, I ask unanimous consent that the bill be considered as read and printed in the RECORD.

Mr. GROSS. Mr. Chairman, reserving the right to object, I wish the gentleman from Michigan would withhold that request. I have no intention of asking the Committee of the Whole to read the entire bill, but I wish the gentleman would withhold that request for a minute or 2, or 3 or 4 or 5 minutes.

Mr. DINGELL. Mr. Chairman, I withdraw by unanimous-consent request.

The CHAIRMAN. The Clerk will read. The Clerk read as follows:

"SEC. 5A. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, both living and non-living, and the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

"(b) The President shall transmit to the Congress annually beginning June 30, 1970, an Environmental Quality Report (hereinafter referred to as the 'report') which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; and (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

"(c) (1) There is created in the Executive Office of the President a Council on Environmental Quality (hereafter referred to as the 'Council'). The Council shall be composed of five members who shall be appointed by the President, by and with the advice and consent of the Senate, one of whom the President shall designate as chairman, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise programs and activities of the Government in the light of the policy set forth in subsection (a) of this section, and to formulate and recommend national

policy to promote the improvement of our environmental quality.

"(2) The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this section, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

"(3) It shall be the duty and function of the Council—

"(A) to assist and advise the President in the preparation of the Environmental Quality Report;

"(B) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in subsection (a) of this section, and to compile and submit to the President studies relating to such conditions and trends;

"(C) to appraise the various programs and activities of the Federal Government in the light of the policy set forth in subsection (a) of this section for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

"(D) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet social, economic, and other requirements of the Nation; and

"(E) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

"(4) The Council shall make an annual report to the President in May of each year.

"(5) In exercising its powers, functions, and duties under this section—

"(A) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, organizations, State and local governments, and other groups, as it deems advisable; and

"(B) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided."

Mr. SAYLOR (during the reading). Mr. Chairman, I ask unanimous consent that the bill be considered as read, printed in the RECORD, and open to amendment at any point.

The CHAIRMAN. Is there objection to the request of the gentleman from Pennsylvania?

Mr. GROSS. Mr. Chairman, I object to that.

The CHAIRMAN. Objection is heard.

Mr. DINGELL. Mr. Chairman, I ask unanimous consent that the section be considered as read, printed in the RECORD, and open to amendment at any point.

The CHAIRMAN. Is there objection to the request of the gentleman from Michigan?

PARLIAMENTARY INQUIRY

Mr. ASPINALL. Mr. Chairman, reserving the right to object, I have a parliamentary inquiry.

The CHAIRMAN. The gentleman will state it.

Mr. ASPINALL. Where does section 1 end?

The CHAIRMAN. On page 5, line 11. Is there objection to the request of the gentleman from Michigan?

There was no objection.

AMENDMENTS OFFERED BY MR. ASPINALL

Mr. ASPINALL. Mr. Chairman, I have amendments at the desk. I ask unanimous consent that my amendments be read down to No. 17, and that they be considered en bloc.

The CHAIRMAN. Is there objection to the request of the gentleman from Colorado that the amendments be considered en bloc?

There was no objection.

The CHAIRMAN. The Clerk will read the amendments.

The Clerk read as follows:

Amendments offered by Mr. Aspinall: On page 1, lines 3 to 6, strike out "Fish and Wildlife Coordination Act is amended by redesignating section 5A as section 5B and by inserting immediately after section 5 the following new section:

"Sec. 5A. (a) The"

On page 2, line 13, strike out "'(b)'" and insert "Sec. 2."

On page 3, line 1, strike out "'(c) (1)'" and insert "Sec. 3."

On page 3, line 5, strike out "by and with the advice and consent of the Senate,".

On page 3, line 15, strike out "'(2)'" and insert "Sec. 4."

On page 3, line 23, strike out "'(3)'" and insert "Sec. 5."

On page 3, line 24, strike out "'(A)'" and insert "'(a)'".

On page 4, line 1, strike out "'(B)'" and insert "'(b)'".

On page 4, line 10, strike out "'(C)'" and insert "'(c)'".

On page 4, line 17, strike out "'(D)'" and insert "'(d)'".

On page 4, line 21, strike out "'(E)'" and insert "'(e)'".

On page 4, line 24, strike out "'(4)'" and insert "Sec. 6."

On page 5, line 1, strike out "'(5)'" and insert "Sec. 7."

On page 5, line 3, strike out "'(A)'" and insert "'(a)'".

On page 5, line 7, strike out "'(B)'" and insert "'(b)'".

On page 5, line 11, strike out "avoided." and insert "avoided."

Mr. ASPINALL. Mr. Chairman, it is my understanding that these amendments are satisfactory to the committee having jurisdiction over this legislation. Most of them are technical. However, there are three or four amendments which are substantial in their effect.

The first amendment has reference to the Fish and Wildlife Coordination Act. This language is deleted in order that this new legislation can stand on its own and will not be tied to an existing program. The subject matter of the bill relates to all environmental classes, and therefore its enactment as an amendment to this act is not appropriate and should be changed.

The second important amendment has to do with the question of Senate confirmation. Requirements for Senate confirmation of members of the Council is deleted by my amendment. I see no reason for Senate confirmation of a Presidential council of this nature. In fact, I think it dilutes the importance of the council. I think it means, if you take it as I read it, that this House is giving

way to the Senate in the membership of the proposed council a great deal of its own prerogative in the establishment of the council itself.

Another important change that I make is the language added to make it clear that nothing in this act changes the authority given to an existing agency created by provisions of existing law. We leave existing law as it is. In my opinion, if additional authority and direction to existing agencies is needed, it should be provided by additional legislation. Here is where we will find ourselves in conflict with the other body when our conferees go into conference with the other body, because they do not pay sufficient attention in my opinion to existing authority of agencies already created.

If I remember correctly, that is as far as these amendments to this section go.

Mr. DINGELL. Mr. Chairman, these amendments have been discussed by and between me and my good friend, the gentleman from Colorado.

I would like to ask my good friend from Colorado if these are the amendments that we discussed at a time earlier.

Mr. ASPINALL. The gentleman is correct, excepting that there are other amendments I have before the committee at this time and they will be added when we get to the reading of the next section.

Mr. DINGELL. Mr. Chairman, I have discussed these amendments with my good friend from Colorado, and on behalf of the committee I interpose no objection. We have agreed to accept these amendments on the floor.

Mr. GROSS. Mr. Chairman, I move to strike the necessary number of words.

(Mr. GROSS asked and was given permission to revise and extend his remarks.)

Mr. GROSS. Mr. Chairman, one of the previous speakers said that the people are deeply concerned about environmental quality. Let me add that the people of this country are more deeply concerned about the tax burdens that are being loaded onto them, the inflation, and the debt that is being piled up. I suggest that at this time a council on tax environment would be far more appropriate than still another Council on Environmental Quality.

I tried a few minutes ago to get some kind of a handle, some kind of information, on the number of councils already loose in this country dealing with various forms of environmental quality. I got exactly nowhere. There is one, as I tried to point out earlier, in Virginia occupying, I do not know how many acres of land. This is out by Dulles Airport in the Herndon, Va., area. It is called Environmental Sciences and apparently operated by the Department of Commerce. Is that not large enough to embrace all environments? What is the meaning of "sciences"? What is the meaning of "environment"?

There was established last spring by the President of the United States, an Environmental Quality Council. It is apparently functioning right now.

What is proposed to be done with this Council already in existence? How much money is it proposed to spend on organizations of this kind?

There is no question in my mind but what this pending bill is going to provide more duplication. When do we propose to start saving \$1 million around here? There is no limitation contained in this legislation except the estimated cost of \$1 million a year. It could be more.

When is it proposed to save \$1 million around this place? When is it proposed to give the taxpayers a break? When are we going to make some move toward stopping inflation that is chewing the economy of this country to pieces?

I do not know how many consultants, how many supergrades it is proposed to hire in this deal. I do not know how many there are over at the White House backing up the Council that has already been established with the same title. How many supergrades are already employed for this purpose? There is no limitation on this bill except the report says, "We estimate \$1 million a year."

Is it not about time to apply the brakes around here? When? When? When do we stop the duplication and the extravagance?

Mr. Chairman, this bill ought to be put on the shelf at least until we are provided valid reasons for spending money for purposes of this kind.

Mr. MURPHY of New York. Mr. Chairman, I move to strike the last word.

(Mr. MURPHY of New York asked and was given permission to revise and extend his remarks.)

Mr. MURPHY of New York. Mr. Chairman, I supported this legislation in the committee. However, I did support it with reservations, some reservations which I would like to point out to the Committee today.

No one can doubt that cleaning up our air and earth and water demands the best efforts of many people. Any attempt to control the environmental system, therefore, must involve not only the best efforts of science and technology, but the law, sociology, politics, and economics.

But when we join such diverse talents can we strike that precious balance to avoid self-interest—the greatest of all pollutants to man's progress. For in matters of the environment, the range of self-interests to be served is national in scope.

The environmental system, furthermore, is by nature thoroughly geopolitical. Air and water contaminants do not respect State and local political boundaries. And so it falls on the Federal Government—the Congress—to create the basic legislation that applies equitably and effectively to all jurisdictions.

The purpose of the legislation before the Congress today—to provide for the establishment of a Council on Environmental Quality—is supposed to promote general welfare and to create and maintain conditions under which man and nature can exist in productive harmony. It may not.

The problem of swill, garbage, rubbish, and trash is very close, if not near and dear, to the citizens of New York and in fact every major urban area and many less concentrated areas of population. These necessary but unwanted by-

products of our everyday life are politely termed solid waste. It is the disposal and even worse the failure to dispose of solid waste that is the constantly growing cause of major hazard to health and esthetics. When we seek to establish a Council on Environmental Quality with the goal of controlling our environmental system—our air and earth and water—we should strive to think in grand terms of accomplishment. In the case of solid waste, many communities have only one practical means of disposal and that is by burning. So we must consider solid waste then as a fuel and as a fuel we should use its energies for electric power, the control of water pollution, and the treatment of sewage. We should burn it cleanly so as not to pollute the air around us and we must develop new combustion technology for this purpose.

With considerable foresight I believe, the Department of Health, Education, and Welfare has been committed to research for this very objective for several years. This is a program that ought to vitally concern at least three Cabinet departments and five agencies within those departments: Health, Education, and Welfare, with its divisions of solid waste and air pollution; Interior, with its Office of Salient Water and Federal Water Pollution Control Administration; and Housing and Urban Development, with its planning of model cities and its multitude of other responsibilities.

Now, not tomorrow, is the time for a crash program by all of these agencies to complete the research and put our solid waste disposal into a safe position and perhaps even one that actually contributes to, rather than detracts from the general well-being of all of our people.

This I would deem one of the major challenges that would concern the Council on Environmental Quality proposed in this legislation. However, the ubiquitous hand of a number of Federal agencies and vested interest groups, both implicitly and explicitly, has written this legislation for their own self-interest and not the general welfare.

I would like to emphasize here that the power of the Department of the Interior, in matters of conservation, seem to override almost all considerations for the public good. In fact, they affect public works on a national basis.

The Department has consistently hid behind the veil of conservation to overrule vitally needed public works projects.

On the one hand they screamed pollution to prevent a channel-dredging operation in New York Harbor. Yet they allowed the dirtiest type of coal-fired powerplant to be built in my district.

So what we are talking about now is control of the environment by Government agencies. We cannot build a road in my district. We cannot build a road because of environmental factors and conservation factors that completely override need, technology, and the public good.

The constant threat of power blackouts in New York City alone would be abated today if single-minded preservationists had not effectively thwarted

efforts to build a hydroelectric power-plant outside of the city.

I am concerned about creating a commission that will be conservation oriented. If that were to happen, progress would be limited to what has taken place in past decades. I cannot support any measure that literally insures dominance by conservative elements that so override the desires and needs of the public that we lose sight of those everyday needs.

I want the record here today in the Congress to insure that this Commission does not act against the environment in our urban areas. That it consider balance in the creation of necessary public works to clean, as well as to preserve our land.

The CHAIRMAN. The question is on the amendments offered by the gentleman from Colorado (Mr. ASPINALL).

The amendments were agreed to.

AMENDMENT OFFERED BY MR. REUSS

Mr. REUSS. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. REUSS: On page 2, line 22, strike out "and" immediately preceding "(2)".

On page 2, line 25, strike out the period and insert in lieu thereof a semicolon and the following: "(3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effects on the environment and on the conservation, development, and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation."

Mr. REUSS. Mr. Chairman, I first want to congratulate the members of the committee for having brought forth this trailblazing piece of legislation to the floor this afternoon. It, in its day, when enacted, will be as much of a landmark in matters of the environment as the Employment Act of 1946 has been in matters of economics.

Mr. Chairman, this amendment I propose is a simple amendment. It relates to the annual report on environmental quality required of the President by the bill. As the bill now stands, it contains excellent language that the President shall report on the status and condition of the environment. My amendment goes on to say that he should also give a report on how we are doing to fulfill the environmental goals under existing measures and programs and, if we are not doing as well as we might, to recommend ways of remedying those deficiencies, including recommendations for legislation.

This language is modeled after the language which has proved workable for more than 20 years with respect to the Employment Act of 1946.

It was approved in testimony before the House Committee on Government Operations by the presidential science adviser, Mr. DuBridge, and I have submitted it to the managers on both sides. I believe it is satisfactory to them.

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. REUSS. I yield to the gentleman.

Mr. DINGELL. I have discussed with the members of the committee with the able and distinguished chairman of the committee, the Honorable EDWARD GARMATZ, and with my distinguished friend and colleague, the gentleman from Washington (Mr. PELLY).

We find no objection to this language and I believe it would help the bill. On behalf of the committee, I am happy to accept the language offered by the gentleman from Wisconsin. I do commend him for his labors in this regard and I thank him.

Mr. REUSS. I thank the gentleman.

The CHAIRMAN. The question is on the amendment offered by the gentleman from Wisconsin (Mr. REUSS).

The amendment was agreed to.

AMENDMENT OFFERED BY MR. DADDARIO

Mr. DADDARIO. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. DADDARIO: On page 1, strike lines 3 through 6 and insert the following:

"That (a) This Act may be cited as The Environmental Quality and Productivity Act of 1969.

"SEC. (b) (1). The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances on our physical and biological surroundings and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

"(A) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

"(B) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

"(C) attain the widest range of beneficial uses of safety, or other undesirable and unintended consequences;

"(D) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

"(E) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

"(F) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

"(2) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

"SEC. (c) The Congress authorizes and directs that the policies, regulations, and public laws of the United States, to the fullest extent possible, be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal Government—

"(1) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the

natural and social sciences and the environmental design arts in planning and in decision-making which may have an impact on man's environment;

"(2) identify and develop methods and procedures which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

"(3) include in every recommendation or report on proposals for legislation and other Federal actions significantly affecting the quality of the human environment, a finding by the responsible official that—

"(A) the environmental impact of the proposed action has been studied and considered;

"(B) any adverse environmental effects which cannot be avoided by following reasonable alternatives are justified by other stated considerations of national policy;

"(C) local short-term uses of man's environment are consistent with maintaining and enhancing long-term productivity; and that

"(D) any irreversible and irretrievable commitments of resources are warranted.

"(4) study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of land, water, or air;

"(5) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

"(6) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President and to the Congress such measures as may be necessary to make their authority consistent with this Act.

"SEC. (d) (1) The Congress, recognizing the profound"

CONFORMING AMENDMENTS

On page 2, line 13, strike out "(b)" and insert "2".

On page 3, line 1, strike out "(c) (1)" and insert "3A".

On page 3, line 5, strike out "by and with the advice and consent of the Senate."

On page 3, line 15, strike out "(2)" and insert "B".

On page 3, line 23, strike out "(3)" and insert "C".

On page 3, line 24, strike out "(A)" and insert "(i)".

On page 4, line 1, strike out "(B)" and insert "(ii)".

On page 4, line 10, strike out "(C)" and insert "(iii)".

On page 4, line 17, strike out "(D)" and insert "(iv)".

On page 4, line 21, strike out "(E)" and insert "(v)".

On page 4, line 24, strike out "(4)" and insert "(D)".

On page 5, line 1, strike out "(5)" and insert "(E)".

On page 5, line 3, strike out "(A)" and insert "(1)".

On page 5, line 7, strike out "(B)" and insert "(ii)".

On page 5, line 11, strike out "avoided." and insert "avoided."

On page 5, line 12, strike out "SEC. 2(a)." and insert "SEC. (e) (1)."

On page 5, line 16, strike out "(b)" and insert "(2)".

On page 5, after line 19, insert new sections f, g, and h, as follows:

"SEC. f. The annual reports submitted to the Congress pursuant to section 2 of this Act shall be referred by the Speaker to each standing committee of the House of Representatives that has jurisdiction over any part of the subject matter of the reports.

"Sec. g. Nothing in this Act shall increase, decrease, or change any responsibility or authority of any Federal official or agency created by other provision of law.

"Sec. h. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$500,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter."

PARLIAMENTARY INQUIRY

Mr. ASPINALL. Mr. Chairman, a parliamentary inquiry.

The CHAIRMAN. The gentleman will state it.

Mr. ASPINALL. The amendment, as it has been offered, would destroy the entire structure of section 1 as perfected by the so-called Aspinall amendment. I wish to know if the Chair would rule that that is correct.

The CHAIRMAN. The Chair is of the opinion that the amendment of the gentleman from Connecticut was offered in the nature of a substitute for section 1 of the bill, but the Chair will examine the amendment.

Mr. ASPINALL. I did not understand the gentleman from Connecticut to offer his amendment as an amendment in the nature of a substitute.

The CHAIRMAN. The gentleman from Connecticut proposed to strike out lines 3 through 6 and insert substitute wording.

Mr. ASPINALL. Mr. Chairman, I make a point of order against the amendment on the ground that it comes too late. It comes after perfection of the original language and would destroy the so-called Aspinall amendment.

The CHAIRMAN. Does the gentleman make a point of order against the amendment?

Mr. ASPINALL. That is exactly correct. That is what I am doing.

The CHAIRMAN. Will the gentleman state his point of order again?

Mr. ASPINALL. After the bill has been perfected by the so-called Aspinall amendment, the amendment offered by the gentleman from Connecticut is offered as an amendment to that amendment as such, after it has been adopted by the House.

If the amendment were offered as a substitute, then I could not object to it, so far as that is concerned. But I object to it as purely an amendment.

The CHAIRMAN. Does the gentleman from Connecticut desire to be heard on the point of order?

Mr. DADDARIO. Mr. Chairman, the amendment which I offer as a substitute to the first section would simply add language which would in no way interfere with the activity already taking place but which is in fact supplementary to it. The language is clear. It would have no effect on the action already taken, excepting to add language.

The CHAIRMAN (Mr. McCARTHY). The Chair is prepared to rule. The Committee has agreed to the amendments offered by the gentleman from Colorado. His first amendment altered the language on page 1, lines 3 to 6.

The Chair upholds the point of order of the gentleman from Colorado that the amendment of the gentleman from Connecticut attempts to amend an amendment already agreed to and is not in

order. The Chair sustains the point of order.

The Clerk will read.

The Clerk read as follows:

SEC. 2. (a) Section 5313 of title 5, United States Code, is amended by adding at the end thereof the following:

"(20) Chairman, Council on Environmental Quality."

(b) Section 5315 of title 5, United States Code, is amended by adding, at the end thereof, the following:

"(92) Members, Council on Environmental Quality."

COMMITTEE AMENDMENT

The CHAIRMAN. The Clerk will report the committee amendment.

The Clerk read as follows:

Committee amendment: On page 5, line 14, delete "of" and insert in lieu thereof "on".

The committee amendment was agreed to.

AMENDMENTS OFFERED BY MR. ASPINALL

Mr. ASPINALL. Mr. Chairman, I offer amendments.

The Clerk read as follows:

Amendments offered by Mr. ASPINALL: On page 5, line 12, strike out "SEC. 2." and insert "SEC. 8."

On page 5, after line 19, insert new sections 9 and 10, as follows:

"Sec. 9. Nothing in this Act shall increase, decrease, or change any responsibility or authority of any Federal official or agency created by other provision of law.

"Sec. 10. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$500,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter."

The CHAIRMAN. The gentleman from Colorado is recognized for 5 minutes.

(Mr. ASPINALL asked and was given permission to revise and extend his remarks.)

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. ASPINALL. I yield to the gentleman from Michigan.

Mr. DINGELL. Mr. Chairman, I would like to ask my good friend, the gentleman from Colorado, are these the amendments the gentleman discussed with me earlier?

Mr. ASPINALL. Mr. Chairman, these are the amendments I discussed with my good friend, the gentleman from Michigan.

Mr. DINGELL. They are dealing with what?

Mr. ASPINALL. They deal with the proposed sections 9 and 10 and also a correcting amendment on page 5, line 12, because that section is to be renumbered, as it should be.

Mr. DINGELL. Mr. Chairman, if the gentleman will yield further, I have discussed these amendments with the able and distinguished chairman of the full committee, Mr. GARMATZ, and with my distinguished friend and colleague, the gentleman from Washington (Mr. PELLY). I am prepared to accept these amendments.

Mr. ASPINALL. Mr. Chairman, I wish to make two short statements. One, I thank my friend the gentleman from Michigan, for his statement that his committee accepts the amendments, but I do want the Record to show that what

we propose in the language is to make clear that nothing in this act changes the authority and responsibility of existing agencies created by other provisions of law. In my opinion, if additional authority is needed and direction to existing agencies is needed, they should be provided by separate legislation.

Finally, I wish to state that the House bill is open-ended for the expenditure of money. The Senate bill is open-ended in one place and closed in two other places, with larger amounts of money than is proposed here.

The language I have proposed, and on which I have received unanimous consent to have the amendments considered en bloc, places a ceiling on the amount authorized to be appropriated to carry out the provisions of this act.

Mr. Chairman, in regard to this legislation we are giving to Congress the oversight authority which it needs and which it should have on any environmental program that is proposed by the executive department or by Congress.

Mr. SAYLOR. Mr. Chairman, will the gentleman yield?

Mr. ASPINALL. I yield to my friend, the gentleman from Pennsylvania.

Mr. SAYLOR. Mr. Chairman, I congratulate the gentleman from Colorado for offering these amendments, particularly the amendment which is new section 10, because this places a limitation upon the expenditures that can be made by this Commission that will be appointed. This is in keeping with the policy which we have used in the Committee on Interior and Insular Affairs in all legislation we report to the Congress. I think other committees might do well to follow like procedure in such matters.

Mr. ASPINALL. Mr. Chairman, the chairman of the Committee on Interior and Insular Affairs, now in the well, suggests that this is the way to see that our oversight authority is taken care of properly.

The CHAIRMAN. The question is on the amendments offered by the gentleman from Colorado (Mr. ASPINALL).

The amendments were agreed to.

The CHAIRMAN. Under the rule, the Committee rises.

Accordingly the Committee rose; and the Speaker having resumed the chair, Mr. McCARTHY, Chairman of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H.R. 12549) to amend the Fish and Wildlife Coordination Act to provide for the establishment of a Council on Environmental Quality, and for other purposes, pursuant to House Resolution 544, he reported the bill back to the House with sundry amendments adopted by the Committee of the Whole.

The SPEAKER. Under the rule, the previous question is ordered.

Is a separate vote demanded on any amendment? If not, the Chair will put them en gros.

The amendments were agreed to.

The SPEAKER. The question is on the engrossment and third reading of the bill.

The bill was ordered to be engrossed and read a third time, and was read the third time.

The SPEAKER. The question is on the passage of the bill.

The question was taken; and the Speaker announced that the ayes appeared to have it.

Mr. HALL. Mr. Speaker, I object to the vote on the ground that a quorum is not present and make the point of order that a quorum is not present.

The SPEAKER. Evidently a quorum is not present.

The Doorkeeper will close the doors, the Sergeant at Arms will notify absent Members, and the Clerk will call the roll.

The question was taken; and there were—yeas 372, nays 15, not voting 43, as follows:

[Roll No. 181]

YEAS—372

| | | |
|----------------|-----------------|-----------------|
| Abbott | Conyers | Gubser |
| Abernethy | Corbett | Gude |
| Adair | Coughlin | Hagan |
| Adams | Cowger | Haley |
| Addabbo | Cramer | Halpern |
| Albert | Culver | Hamilton |
| Alexander | Cunningham | Hammer- |
| Anderson | Daddario | schmidt |
| Calif. | Daniel, Va. | Hanley |
| Anderson, Ill. | Daniels, N.J. | Hansen, Idaho |
| Anderson, | Davis, Ga. | Hansen, Wash. |
| Tenn. | Davis, Wis. | Harsha |
| Andrews, Ala. | de la Garza | Harvey |
| Andrews, | Delaney | Hastings |
| N. Dak. | Dellenback | Hathaway |
| Annunzio | Denneny | Hawkins |
| Arends | Dennis | Hays |
| Ashley | Dent | Hébert |
| Aspinall | Derwinski | Hechler, W. Va. |
| Ayres | Dickinson | Heckler, Mass. |
| Barrett | Diggs | Helstoski |
| Beall, Md. | Dingell | Hicks |
| Belcher | Donohue | Hogan |
| Bell, Calif. | Dorn | Hollifield |
| Bennett | Dowdy | Horton |
| Betts | Downing | Howard |
| Bevill | Dulski | Hull |
| Biaggi | Duncan | Hungate |
| Biester | Dwyer | Hunt |
| Bingham | Eckhardt | Hutchinson |
| Blackburn | Edmondson | Ichord |
| Blanton | Edwards, Ala. | Jacobs |
| Blatnik | Edwards, Calif. | Jarman |
| Boggs | Edwards, La. | Johnson, Calif. |
| Boland | Eilberg | Johnson, Pa. |
| Bow | Erlenborn | Jones, Ala. |
| Brademas | Esch | Jones, N.C. |
| Brasco | Eshleman | Jones, Tenn. |
| Bray | Evans, Colo. | Karth |
| Brinkley | Evins, Tenn. | Kastenmeier |
| Brock | Fallon | Kazen |
| Brooks | Farbstein | Kee |
| Broomfield | Feighan | Keith |
| Brotzman | Findley | Kleppe |
| Brown, Calif. | Fish | Kluczynski |
| Brown, Mich. | Fisher | Koch |
| Broyhill, N.C. | Flood | Kuykendall |
| Broyhill, Va. | Flowers | Kyl |
| Buchanan | Flynt | Kyros |
| Burke, Fla. | Foley | Landrum |
| Burke, Mass. | Ford, Gerald R. | Langen |
| Burton, Calif. | Ford, | Latta |
| Burton, Utah | William D. | Leggett |
| Bush | Foreman | Lennon |
| Button | Fountain | Lloyd |
| Byrne, Pa. | Fraser | Long, Md. |
| Byrnes, Wis. | Frelinghuysen | Lowenstein |
| Caffery | Frey | Lujan |
| Carey | Friedel | Lukens |
| Carter | Fulton, Pa. | McCarthy |
| Casey | Fulton, Tenn. | McClary |
| Cederberg | Fuqua | McClure |
| Chamberlain | Gallianakis | McCulloch |
| Chisholm | Gallagher | McDade |
| Clancy | Garmatz | McDonald, |
| Clark | Gaydos | Mich. |
| Clausen, | Gettys | McEwen |
| Don H. | Glaimo | McFall |
| Clawson, Del | Gibbons | Macdonald, |
| Clay | Goldwater | Mass. |
| Cleveland | Gonzalez | MacGregor |
| Cohelan | Goodling | Madden |
| Collier | Gray | Mahon |
| Collins | Green, Oreg. | Mailliard |
| Conable | Green, Pa. | Mann |
| Conte | Griffin | Marsh |

| | | |
|----------------|---------------|----------------|
| Martin | Price, Ill. | Stanton |
| Mathias | Price, Tex. | Steed |
| Matsunaga | Pryor, Ark. | Steiger, Wis. |
| May | Purcell | Stephens |
| Mayne | Quie | Stokes |
| Meeds | Quillen | Stratton |
| Melcher | Railsback | Stubblefield |
| Meskill | Randall | Sullivan |
| Michel | Rees | Symington |
| Mikva | Reid, Ill. | Taft |
| Miller, Calif. | Reid, N.Y. | Talcott |
| Miller, Ohio | Reuss | Taylor |
| Minish | Rhodes | Teague, Tex. |
| Mink | Riegle | Thompson, Ga. |
| Minshall | Rivers | Thompson, N.J. |
| Mize | Roberts | Thomson, Wis. |
| Mizell | Robison | Tiernan |
| Monagan | Rodino | Udall |
| Moorhead | Rogers, Colo. | Ullman |
| Morgan | Rogers, Fla. | Van Deerlin |
| Morse | Rooney, N.Y. | Vander Jagt |
| Morton | Rooney, Pa. | Vanik |
| Mosher | Rosenthal | Vigorito |
| Moss | Roth | Waggonner |
| Murphy, Ill. | Roudebush | Waldie |
| Murphy, N.Y. | Roybal | Wampler |
| Myers | Ruppe | Watkins |
| Natcher | Ruth | Watson |
| Nedzi | Ryan | Watts |
| Nelsen | St Germain | Weicker |
| Nichols | St. Onge | Whalen |
| Nix | Sandman | White |
| Obey | Satterfield | Whitehurst |
| Olsen | Saylor | Widnall |
| O'Neal, Ga. | Schadeberg | Wiggins |
| O'Neill, Mass. | Scheuer | Williams |
| Ottinger | Schneebeli | Wilson, Bob |
| Passman | Schwengel | Winn |
| Patman | Scott | Wold |
| Patten | Sebelius | Wolff |
| Pelly | Shibley | Wright |
| Perkins | Shriver | Wyder |
| Pettis | Sikes | Wyllie |
| Philbin | Skubitz | Wyman |
| Pickle | Slack | Yates |
| Pike | Smith, Calif. | Yatron |
| Pirnie | Smith, Iowa | Young |
| Podell | Smith, N.Y. | Zablocki |
| Poff | Snyder | Zion |
| Pollock | Springer | Zwach |
| Preyer, N.C. | Stafford | |

NAYS—15

| | | |
|---------------|-----------|------------|
| Ashbrook | Hall | Montgomery |
| Burlison, Mo. | Henderson | Rarick |
| Camp | King | Scherle |
| Devine | McMillan | Stuckey |
| Gross | Mills | Whitten |

NOT VOTING—43

| | | |
|----------------|-----------|----------------|
| Baring | Grover | Powell |
| Berry | Hanna | Pucinski |
| Bolling | Hosmer | Reifel |
| Brown, Ohio | Jonas | Rostenkowski |
| Burleson, Tex. | Kirwan | Sisk |
| Cabell | Landgrebe | Staggers |
| Cahill | Lipscomb | Steiger, Ariz. |
| Celler | Long, La. | Teague, Calif. |
| Chappell | McCloskey | Tunney |
| Colmer | McKneally | Utt |
| Corman | Mollohan | Whalley |
| Dawson | O'Hara | Wilson, |
| Fascell | O'Konski | Charles H. |
| Gilbert | Pepper | Wyatt |
| Griffiths | Poage | |

So the bill was passed.

The Clerk announced the following pairs:

Mr. Kirwan with Mr. Jonas.
 Mr. Celler with Mr. Cahill.
 Mr. Charles H. Wilson with Mr. Hosmer.
 Mr. Fascell with Mr. Lipscomb.
 Mr. Gilbert with Mr. Grover.
 Mr. Pucinski with Mr. McKneally.
 Mr. O'Hara with Mr. Brown of Ohio.
 Mr. Staggers with Mr. Berry.
 Mr. Burleson of Texas with Mr. Landgrebe.
 Mr. Colmer with Mr. Utt.
 Mr. Pepper with Mr. Whalley.
 Mr. Rostenkowski with Mr. McCloskey.
 Mr. Long of Louisiana with Mr. O'Konski.
 Mr. Baring with Mr. Steiger of Arizona.
 Mr. Cabell with Mr. Reifel.
 Mr. Chappell with Mr. Wyatt.
 Mr. Sisk with Mr. Teague of California.
 Mr. Corman with Mr. Dawson.
 Mr. Tunney with Mr. Mollohan.
 Mrs. Griffiths with Mr. Hanna.

Mr. ABERNETHY changed his vote from "nay" to "yea."

The result of the vote was announced as above recorded.

The doors were opened.

TITLE AMENDMENT OFFERED BY MR. ASPINALL

Mr. ASPINALL. Mr. Speaker, I offer an amendment to the title.

The Clerk read as follows:

Title amendment offered by Mr. ASPINALL: Amend the title so as to read: "A bill to provide for the establishment of a Council on Environmental Quality, and for other purposes."

The title amendment was agreed to.

A motion to reconsider was laid on the table.

Mr. DINGELL. Mr. Speaker, pursuant to the provisions of House Resolution 544, I call up for immediate consideration the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers.

The Clerk read the title of the Senate bill.

MOTION OFFERED BY MR. DINGELL

Mr. DINGELL. Mr. Speaker, I offer a motion.

The Clerk read as follows:

Motion offered by Mr. DINGELL: Strike out all after the enacting clause of S. 1075 and insert in lieu thereof the provisions of H.R. 12549, as passed, as follows:

"That the Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, both living and nonliving, and the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans.

"SEC. 2. The President shall transmit to the Congress annually beginning June 30, 1970, an Environmental Quality Report (hereinafter referred to as the 'report') which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development, and utilization of natural resources;

and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for activities, together with recommendations for legislation.

"Sec. 3. There is created in the Executive Office of the President a Council on Environmental Quality (hereafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, one of whom the President shall designate as chairman, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise programs and activities of the Government in the light of the policy set forth in subsection (a) of this section, and to formulate and recommendation national policy to promote the improvement of our environmental quality.

"Sec. 4. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this section, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

"Sec. 5. It shall be the duty and function of the Council—

"(a) to assist and advise the President in the preparation of the Environmental Quality Report;

"(b) to gather timely and authoritative information concerning the conditions and trends in environmental quality both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in subsection (a) of this section, and to compile and submit to the President studies relating to such conditions and trends;

"(c) to appraise the various programs and activities of the Federal Government in the light of the policy set forth in subsection (a) of this section for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

"(d) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet social, economic, and other requirements of the Nation; and

"(e) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

"Sec. 6. The Council shall make an annual report to the President in May of each year.

"Sec. 7. In exercising its powers, functions, and duties under this section—

"(a) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, organizations, State and local governments, and other groups, as it deems advisable; and

"(b) the Council shall, to the fullest extent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided.

"Sec. 8. (a) Section 5313 of title 5, United States Code, is amended by adding at the end thereof the following:

"(20) Chairman, Council on Environmental Quality."

"(b) Section 5315 of title 5, United States Code, is amended by adding, at the end thereof, the following:

"(92) Members, Council on Environmental Quality."

"Sec. 9. Nothing in this Act shall increase, decrease, or change any responsibility or authority of any Federal official or agency created by other provision of law.

"Sec. 10. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$500,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

"Amend the title so as to read: 'An Act to provide for the establishment of a Council on Environmental Quality, and for other purposes.'"

The motion was agreed to.

The Senate bill was ordered to be read a third time, was read the third time, and passed.

The title was amended so as to read: "A bill to provide for the establishment of a Council on Environmental Quality, and for other purposes."

A motion to reconsider was laid on the table.

A similar House bill (H.R. 12549) was laid on the table.

APPOINTMENT OF CONFEREES ON S. 1075

Mr. DINGELL. Mr. Speaker, I ask unanimous consent that the House insist on its amendments to the Senate bill (S. 1075) and request a conference with the Senate on the disagreeing votes of the two Houses thereon.

The SPEAKER. Is there objection to the request of the gentleman from Michigan? The Chair hears none, and appoints the following conferees: Messrs. GARMATZ, DINGELL, ASPINALL, PELLY, and SAYLOR.

GENERAL LEAVE

Mr. DINGELL. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days in which to revise and extend their remarks on the bill just passed.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

COMMISSION ON GOVERNMENT PROCUREMENT

Mr. YOUNG. Mr. Speaker, by direction of the Committee on Rules, I call up House Resolution 534 and ask for its immediate consideration.

The Clerk read the resolution, as follows:

H. RES. 534

Resolved, That upon the adoption of this resolution it shall be in order to move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 474) to establish a Commission on Government Procurement. After general debate, which shall be confined to the bill and shall continue not to exceed one hour, to be equally divided and controlled by the chairman and ranking minority member of the Committee on Government Operations, the bill shall be read for amendment under the five-minute rule. At the conclusion of the consideration of the bill for amendment, the Committee shall rise and report the bill to the House with such amendments as may have been adopted, and the previous question shall be

considered as ordered on the bill and amendments thereto to final passage without intervening motion except one motion to reconsider.

The SPEAKER. The gentleman from Texas is recognized for 1 hour.

Mr. YOUNG. Mr. Speaker, I yield 30 minutes to the gentleman from Ohio (Mr. LATTA), pending which I yield myself such time as I may consume.

(Mr. YOUNG asked and was given permission to revise and extend his remarks.)

Mr. YOUNG. Mr. Speaker, House Resolution 534 provides an open rule with 1 hour of general debate for consideration of H.R. 474 to establish a Commission on Government Procurement.

The purpose of H.R. 474 is to establish a temporary commission of experts on Government procurement.

The Commission would be composed of 15 members; six appointed by the President, four by the President of the Senate, four by the Speaker of the House, with the Comptroller General serving ex officio. Each appointing authority would draw equally upon Government and non-Government sources. The congressional appointees would be bipartisan. The Commission would have a broad mandate to study procurement Government-wide and to make findings and recommendations to the Congress. Its tenure would be limited to 2 years.

The bill outlines 12 general ways of achieving this policy. These are intended as general guidelines for the Commission and not as changes or modifications in existing procurement laws.

The Commission is directed to "study and investigate the present statutes affecting Government procurement; the procurement policies, rules, regulations, procedures, and practices followed by the departments, bureaus, agencies, boards, commissions, offices, independent establishments, and instrumentalities of the executive branch of the Federal Government; and the organizations by which procurement is accomplished to determine to what extent these facilitate the policy" declared in the bill.

Such sums as necessary to carry out the provisions of the act are authorized. Members of the Commission who are Members of Congress or Federal employees shall receive no compensation for services, but shall be allowed travel expenses. Members of the Commission from outside the Federal Government shall be paid at the rate of \$100 a day for actual service, and other expenses.

Mr. Speaker, I urge the adoption of House Resolution 534 in order that H.R. 474 may be considered.

Mr. LATTA. Mr. Speaker, I yield myself such time as I may consume.

(Mr. LATTA asked and was given permission to revise and extend his remarks.)

Mr. LATTA. Mr. Speaker, the purpose of the bill is to establish a Commission of experts on Government Procurement.

The report points out that, while the Government's procurement bill is about \$55,000,000,000 annually, there is no comprehensive, systematic review of our methods. While a number of congressional committees have jurisdiction

DIGEST of Congressional Proceedings

OF INTEREST TO THE DEPARTMENT OF AGRICULTURE

OFFICE OF BUDGET AND FINANCE
(FOR INFORMATION ONLY;
NOT TO BE QUOTED OR CITED)

Issued Oct. 9, 1969
For actions of Oct. 8, 1969
91st - 1st, No. 164

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HIGHLIGHTS: Senate passed per diem bill. Senate conferees were appointed on environmental quality bill. Senate passed water quality bill. House committee ordered reported measure to increase food stamp authorization.

SENATE

- PER DIEM; TRAVEL. Passed as reported H. R. 337, to increase the maximum rate of per diem allowance for employees traveling on official business. p. S12100
- ENVIRONMENTAL QUALITY. Disagreed to the House amendments to S. 1075, the environmental quality bill. Conferees were appointed. pp. S12124-47

3. WATER POLLUTION. Passed with amendment, 86-0, H. R. 4148 (after substituting the amended language of S. 7, a companion bill), the proposed Water Quality Improvement Act, 1969 (pp. S12099, S12104-23, S12147-60). Conferees were appointed (p. S12158). S. 7, the companion bill, was indefinitely postponed (p. S12157).
4. FARM EXPORTS; BEEF. Sen. Sparkman urged favorable consideration of proposed legislation to call an annual conference of the U. S. beef industry to assess world trade trends; and for a concerted effort to refine agricultural statistics so that Congress would be in a better position to assess judgments on agricultural export and import trade policies. p. S12197
Sen. Hansen said he does not believe the prices of meat, particularly beef, have risen disproportionately with other basic foods. p. S12197
5. EVERGLADES PARK. Concurred in the House amendment to S. 2564, to authorize acquisition of additional lands for the park. This bill will now be sent to the President. p. S12163
6. PESTICIDES. Sen. Nelson discussed and inserted a magazine article placing emphasis on use of alternative, less dangerous pesticides. p. S12180
7. EDUCATION. Sen. Murphy inserted an endorsement of his proposed Urban and Rural Education Act. pp. S12180-1
8. TAX REFORM. Sens. Long and Murphy inserted statements made during hearings on the tax reform bill summarizing some of the provisions of the proposed legislation. pp. S12181, S12194
9. TOBACCO; HEALTH. Sen. Cook discussed and inserted articles on the pros and cons of lung cancer and smoking. pp. S12185-6
10. CONSUMERS. At Sen. Hart's request, the text of S. 2959, his bill to establish an Independent Consumer Council was printed in the Record. pp. S12186-8
11. LEGISLATIVE PROGRAM. Sen. Mansfield said he hopes the potato bills can be taken up Friday, and that next week the poverty program bill and the legislative appropriation bill may be taken up. p. S12162

HOUSE

12. APPROPRIATIONS. Passed, 396-3 without amendment H. R. 14159, the Public Works and Atomic Energy appropriations bill, 1970 (pp. H9224-95).
Rejected amendment that would increase funding for construction grants for waste treatment works by \$400 million.

should be a minimum for the use of any Government-owned or operated facility such as the Cape Cod Canal.

The use of sea lanes for traffic routing is a major step toward reducing the risks of collisions in congested areas. Such lanes are already in use around most of our major ports. Particular efforts should be made to extend traffic patterns to all ports receiving appreciable amounts of oil.

Furthermore, substantial research is needed to determine the feasibility of some form of shorebased-guidance system to promote safe movement of shipping. Such a "sea traffic control system" could be similar to our present air traffic control system which is operated by the Federal Aviation Administration. This system could reserve special lanes for use by ships or barges transporting hazardous substances such as oil.

Work is already underway on some of the provisions I have mentioned. For instance, the House is today holding hearings on the licensing of towboat captains. The fight against oil pollution will not and should not stop with the passage of S. 7. All aspects of this problem must be given the closest scrutiny.

S. 7 is a vital step in the direction of reducing the threat of oil pollution. It effectively underscores that responsibility for clean water does not reside solely with the Federal Water Pollution Control Water Administration, but rather it belongs with every agency of the Federal Government. Mr. President, I am pleased to support S. 7.

MESSAGE FROM THE HOUSE

A message from the House of Representatives by Mr. Bartlett, one of its reading clerks, informed the Senate that pursuant to the provisions of section 2(a), Public Law 89-801, the Speaker appoints as a member of the National Commission on Reform of Federal Criminal Laws, Mr. MUKVA of Illinois, to fill the existing vacancy thereon.

The message announced that the House had disagreed to the amendments of the Senate to the bill (H.R. 11039) to amend further the Peace Corps Act (75 Stat. 612), as amended; agreed to the conference asked by the Senate on the disagreeing votes of the two Houses thereon, and that Mr. MORGAN, Mr. ZABLOCKI, Mr. HAYS, Mr. ADAIR, and Mr. MAILLIARD, were appointed managers on the part of the House at the conference.

The message also announced that the House had passed the bill (S. 267) for the relief of Lt. Col. Samuel J. Cole, U.S. Army, retired, with an amendment, in which it requested the concurrence of the Senate.

The message further announced that the House had passed the following bills of the Senate, severally with amendments, in which it requested the concurrence of the Senate:

S. 1471. An act, to amend chapter 13 of title 38, United States Code, to increase dependency and indemnity compensation for widows and children, and for other purposes;

S. 1857. An act to authorize appropriations for activities of the National Science Foundation pursuant to Public Law 81-507, as amended; and

S. 2564. An act to amend the Act fixing the boundary of Everglades National Park, Fla., and authorizing the acquisition of land therein, in order to authorize an additional amount for the acquisition of certain lands for such park.

The message also announced that the House had passed the following bills in which it requested the concurrence of the Senate.

H.R. 1703. An act for the relief of the Clayton County and Wilber Harris;

H.R. 1783. An act to incorporate the Paralyzed Veterans of America;

H.R. 2477. An act for the relief of Comdr. John N. Green, U.S. Navy;

H.R. 4560. An act for the relief of Sa Cha Bae;

H.R. 5106. An act for the relief of Rogelio Tabhan;

H.R. 6402. An act for the relief of Sanborn Lumber Co., Inc.;

H.R. 6600. An act for the relief of Panagiotis, Georgia, and Constantina Malliaras;

H.R. 9857. An act to amend the provisions of the Perishable Agricultural Commodities Act, 1930, to authorize an increase in license fee, and for other purposes;

H.R. 9906. An act for the relief of J. Burdette Shaft and John S. and Betty Gingas;

H.R. 10156. An act for the relief of Lidia Mendola;

H.R. 11968. An act for the relief of Maj. Louis A. Deering, U.S. Army;

H.R. 13183. An act for the relief of the heirs at law of Tomosuke Uyemura and Chiyo Uyemura, his wife; and

H.R. 13218. An act for the relief of Mr. and Mrs. Joseph E. Begnoche.

ENROLLED BILLS SIGNED

The message further announced that the Speaker had affixed his signature to the following enrolled bills, and they were signed by the Acting President pro tempore:

S. 265. An act for the relief of John (Giovanni) Denaro;

S. 330. An act for the relief of Dr. Konstantinos Nicholas Babaliaros;

S. 620. An act for the relief of Richard Vigil;

S. 1110. An act for the relief of Nickolas George Polizos; and

H.R. 9825. An act to amend subchapter III of chapter 83 of title 5, United States Code, relating to civil service retirement, and for other purposes.

HOUSE BILLS REFERRED

The following bills were severally read twice by their titles and referred as indicated:

H.R. 9857. An act to amend the provisions of the Perishable Agricultural Commodities Act, 1930, to authorize an increase in license fee, and for other purposes; to the Committee on Agriculture and Forestry.

H.R. 1703. An act for the relief of the Clayton County and Wilber Harris;

H.R. 1783. An act to incorporate the Paralyzed Veterans of America;

H.R. 2477. An act for the relief of Comdr. John N. Green, U.S. Navy;

H.R. 4560. An act for the relief of Sa Cha Bae;

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H.R. 13183. An act for the relief of the heirs at law of Tomosuke Uyemura and Chiyo Uyemura, his wife; and

H.R. 13218. An act for the relief of Mr. and Mrs. Joseph E. Begnoche; to the Committee on the Judiciary.

TRANSACTION OF ROUTINE MORNING BUSINESS

Mr. MANSFIELD. Mr. President, I ask unanimous consent that some time toward the shank of the afternoon, there be a time set aside for the transaction of morning business, with speeches limited to the usual 3 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

CONVENTION BETWEEN THE UNITED STATES AND THE KINGDOM OF BELGIUM, RELATING TO CONSULAR RELATIONS—REMOVAL OF INJUNCTION OF SECRECY

Mr. MANSFIELD. Mr. President, as in executive session, I ask unanimous consent that the injunction of secrecy be removed from Executive F, 91st Congress, first session, the consular convention with the Kingdom of Belgium, signed at Washington on September 2, 1969, and two exchanges of notes related thereto, transmitted to the Senate today by the President of the United States, and that the convention, together with the President's message, be referred to the Committee on Foreign Relations and ordered to be printed, and that the President's message be printed in the RECORD.

The PRESIDING OFFICER. Without objection, it is so ordered.

The message from the President is as follows:

EXECUTIVE F, 91-1

To the Senate of the United States:

With a view to receiving the advice and consent of the Senate to ratification, I transmit herewith the consular convention between the United States of America and the Kingdom of Belgium, signed at Washington on September 2, 1969, and two exchanges of notes related thereto.

The convention deals with the conduct of consular relations between the two countries and the functions, privileges, and immunities of their respective consular officers. Upon entry into force it will replace the consular convention of March 9, 1880 between the United States and Belgium. Like other recent consular conventions of the United States, the new convention with Belgium covers such important matters as the obligations of the two countries to assure free communication between a citizen and his consul, to inform consular officers of the arrest or detention of their countrymen, and to permit visits by consuls to any of their countrymen who are in prison. It covers consular functions and responsibilities in such fields as the issuance of visas and passports, and the performance of notarial services. It provides for the inviolability of consular communications, documents, and archives, and the obligations of the host country to protect consular premises against intrusion or damage.

I recommend that the Senate give early and favorable consideration to the convention and related exchanges of notes and give its advice and consent to the ratification thereof.

I transmit also, for the information of the Senate, the report of the Secretary of State with respect to the convention and exchanges of notes.

RICHARD NIXON.

THE WHITE HOUSE, October 8, 1969.

ORDER IN THE SENATE

Mr. BYRD of West Virginia. Mr. President, the Senate is not in order. Will the Chair direct the Sergeant at Arms that all attachés either take seats or leave the Chamber?

The PRESIDING OFFICER. The Sergeant at Arms is directed to make sure that attachés leave the Chamber or take seats.

Mr. YOUNG of Ohio. Mr. President, a point of order. That rule will be in effect throughout the remainder of today, will it not?

The PRESIDING OFFICER. The Senator from Ohio is correct.

Mr. YOUNG of Ohio. I thank the Chair.

ESTABLISHMENT OF A BOARD OF ENVIRONMENTAL QUALITY ADVISORS

Mr. JACKSON. Mr. President, I ask the Chair to lay before the Senate a message from the House of Representatives on S. 1075.

The PRESIDING OFFICER laid before the Senate the amendment of the House of Representatives to the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisors, which was to strike out all after the enacting clause and insert:

That the Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, both living and nonliving, and the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, urban and rural planners, industry, labor, agriculture, science, and conservation organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

SEC. 2. The President shall transmit to the Congress annually beginning June 30, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environ-

ment; (2) current and foreseeable trends in management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development, and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

SEC. 3. There is created in the Executive Office of the President a Council on Environmental Quality (hereafter referred to as the "Council"). The Council shall be composed of five members who shall be appointed by the President, one of whom the President shall designate as chairman, and each of whom shall be a person who, as a result of his training, experience, and attainments, is exceptionally qualified to analyze and interpret environmental information of all kinds, to appraise programs and activities of the Government in the light of the policy set forth in subsection (a) of this section, and to formulate and recommend national policy to promote the improvement of our environmental quality.

SEC. 4. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this section, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 5. It shall be the duty and function of the Council—

(a) to assist and advise the President in the preparation of the Environmental Quality Report;

(b) to gather timely and authoritative information concerning the conditions and trends in environmental qualities both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in subsection (a) of this section, and to compile and submit to the President studies relating to such conditions and trends;

(c) to appraise the various programs and activities of the Federal Government in the light of the policy set forth in subsection (a) of this section for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(d) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet social, economic, and other requirements of the Nation; and

(e) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

SEC. 6. The Council shall make an annual report to the President in May of each year.

SEC. 7. In exercising its powers, functions, and duties under this section—

(a) the Council shall consult with such representatives of science, industry, agriculture, labor, conservation, organizations, State and local governments, and other groups, as it deems advisable; and

(b) the Council, shall, to the fullest ex-

tent possible, utilize the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided.

SEC. 8. (a) Section 5313 of title 5, United States Code, is amended by adding at the end thereof the following:

"(20) Chairman, Council on Environmental Quality."

(b) Section 5315 of title 5, United States Code, is amended by adding, at the end thereof, the following:

"(92) Members, Council on Environmental Quality."

SEC. 9. Nothing in this Act shall increase, decrease, or change any responsibility or authority of any Federal official or agency created by other provision of law.

SEC. 10. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$500,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

And, amend the title so as to read: "An act to provide for the establishment of a Council on Environmental Quality, and for other purposes."

Mr. JACKSON. Mr. President, on July 10, 1969, the Senate passed S. 1075, the Environmental Policy Act of 1969. On September 23 the House of Representatives passed H.R. 12549, "a bill to provide for the establishment of a Council on Environmental Quality, and for other purposes," by a vote of 372 to 15. Following adoption of H.R. 12549, a motion was offered to strike all after the enacting clause of S. 1075, and to substitute therefor the text of the House passed bill, H.R. 12549.

The motion was agreed to, the House insisted on its amendments to the Senate bill—S. 1075—and requested a conference on the disagreeing votes of the two Houses.

Mr. President, upon the conclusion of my remarks on the history and content of the House and Senate passed bills, and the important differences in the two measures, I intend to call up S. 1075, and move that the Senate disagree to the amendments of the House, agree to the conference requested by the House, and appoint the conferees for the Senate.

Mr. President, over the past decade there have been some very remarkable changes in public attitudes toward the manner in which the Nation's natural resources are administered. In the past, the public was concerned about policies designated by the terms "conservation," "preservation," and "multiple use." Today, a new set of words and concepts have come into wide public use in discussing the Nation's irreplaceable natural resource base. These words and concepts include "ecology," "environment," and the "inter-relatedness" of all aspects of the physical environment.

These changes in public attitudes and the growing public awareness and concern over man's limited natural resource base were perhaps best articulated during the decade of the sixties by former Secretary of the Interior Stewart Udall. Secretary Udall made the inadequacy of the Nation's knowledge, policies, priorities and institutions for the administration of the public's resources and man's total environment an important public issue.

The inadequacy of present knowledge, policies, and institutions is reflected in our Nation's history, in our national attitudes, and in our contemporary life. It touches every aspect of man's existence. It threatens, it degrades, and destroys the quality life which all men seek.

We see increasing evidence of this inadequacy all around us: haphazard urban and suburban growth; crowding, congestion, and conditions within our central cities which result in civil unrest and detract from man's social and psychological well-being; the loss of valuable open spaces; inconsistent and, often, incoherent rural and urban land-use policies; critical air and water pollution problems; diminishing recreational opportunity; continuing soil erosion; the degradation of unique ecosystems; needless deforestation; the decline and extinction of fish and wildlife species; faltering and poorly designed transportation systems; poor architectural design and ugliness in public and private structures; rising levels of noise; the continued proliferation of pesticides and chemicals without adequate consideration of the consequences; radiation hazards; thermal pollution; an increasingly ugly landscape cluttered with billboards, powerlines, and junkyards; growing scarcity of essential resources; and many, many other environmental quality problems.

LEGISLATIVE HISTORY

S. 1075

The need for a comprehensive national policy on resource, conservation, and environmental administration has long been a matter of active concern to the Senate Interior and Insular Affairs Committee. This history of active concern is set out in the legislative history section of the committee's report on S. 1075.

Senate passage of S. 1075 in July of this year culminated 10 years of active consideration of legislation on conservation, resource, and environmental policy and the need for new governmental institutions in this important area of Federal responsibility.

During the 86th Congress 4 days of hearings were held on Senator Murray's bill, S. 2549, the Resources and Conservation Act which was introduced in 1959. The concept that there is a need for a high-level Council of Conservation, Resource, or Environmental Advisers first found legislative expression in this measure. This measure also represented the first expression of need for a unified and comprehensive statement of conservation, resource, and environmental policy.

During the 87th Congress hearings were held on a similar measure sponsored by Senator Engle and others.

In subsequent sessions of Congress the same and related measures have been introduced and referred to the Interior Committee for consideration.

In the 89th Congress hearings were held before the Interior Committee on S. 2282, Senator NELSON's Ecological Research and Surveys Act. The major provisions of this measure were later incorporated into S. 2805, introduced by Senator Kuchel and myself in the 90th

Congress. S. 2805 would have authorized a program of ecological and environmental research and established a Council of Environmental Advisers in the Executive Office of the President.

S. 2805 and other measures dealing with environmental and resource policy were discussed at a unique joint House-Senate colloquium to discuss a national policy for the environment, sponsored by the Senate Interior Committee and the House Science and Astronautics Committee in July 1968. All concerned Members of the Congress were invited and many attended.

Prior to the colloquium, a special report entitled a "National Policy For The Environment" was prepared for the Interior Committee as a background document on the need for a policy. After the hearings, a congressional white paper on "A National Policy for the Environment" was prepared. This paper summarized the colloquium proceedings, discussed alternatives for congressional action, and attempted to state the elements of a national policy.

During the 91st Congress, three separate major bills dealing with environmental and resource policy and the establishment of new institutions for overview and oversight purposes were introduced and referred to the Interior Committee. The bills were S. 237, McGOVERN; S. 1075, JACKSON; and S. 1752, NELSON. Hearings were held on these measures on April 16, 1969.

Following a staff review of the hearing record, amendment No. 25, an amendment in the nature of a substitute of S. 1075, was introduced on May 29, 1969. This amendment added a new title to S. 1075 and was substantially incorporated into S. 1075 as ordered reported to the Senate on June 18.

Before the committee's report was filed, the Bureau of the Budget requested that the committee reconsider the measure and recommended further amendments. The bill was reconsidered on July 8, amendments were adopted and the measure was ordered reported. The committee report was filed on July 9 and the bill was passed by the Senate on July 10.

S. 1075 was not referred to committee in the House because of a question over which committee or committees had legislative jurisdiction over the subject matter of the bill. The measure was held at the Speaker's desk until the House passed H.R. 12549, a measure similar to S. 1075 in many respects.

S. 1075 AS AMENDED BY THE HOUSE
(H.R. 12549)

On September 23, the House passed H.R. 12549 and substituted the text of the House-passed bill for the text of S. 1075. The House disagreed with the language of S. 1075, requested a conference and appointed conferees.

H.R. 12549—DINGELL and others—and a number of other identical and similar measures were the subject of hearings before the House Merchant Marine and Fisheries Committee in May and June of this year. H.R. 12549 is similar to title III of S. 1075 in that it would establish a Council of Environmental Advisers and require the President to submit an annual

Environmental Quality Report to the Congress.

Following committee consideration, H.R. 12549 was amended and was ordered reported to the House on July 11. In late September a rule was granted by the House Rules Committee and the measure was scheduled for debate. Following floor debate on September 23, and the adoption of amendments, H.R. 12549 was passed. S. 1075 was then amended by substituting the text of the House-passed bill. The House insisted upon its amendments to S. 1075, and a conference was requested.

S. 1075 as passed by the Senate included a number of provisions which are not in the House version. Among these provisions are some which are essential if the Congress is to enact a sound national policy for the environment.

Mr. President, I ask unanimous consent that there be printed at this point in the RECORD a statement on the differences in the Senate- and House-passed versions of S. 1075; the legislative history; excerpts from a special report of the Committee on Interior and Insular Affairs; excerpts from congressional white paper on a national policy for the environment; a comparison of the measures, and a section-by-section analysis.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

DIFFERENCES IN THE SENATE- AND HOUSE-
PASSED VERSIONS OF S. 1075

The following major provisions of S. 1075 as passed by the Senate are not included in the House bill:

TITLE I—DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

The House version includes, as Section 1, a brief statement of Congressional policy recognizing the importance of environmental management as a function of the Federal government. This statement, however, does not include the specific statement of goals and requirements for specific action on the part of Federal agencies which are set forth in Title I of the Senate version.

Congressman Daddario offered an amendment on the floor of the House which would have incorporated the Senate language of Title I into the House bill. A point of order was raised on procedural grounds, however, and the House did not have an opportunity to consider the amendment on its merits.

Title I of the Senate version includes the following provisions:

Sec. 101 (a) is a declaration by the Congress of a national environmental policy. It recognizes mankind's dependence upon the environment and the increasing pressures of population growth and technological advancement. Six broad national goals are set forth to guide the environmental management efforts of the Federal establishment.

Sec. 101 (b) asserts congressional recognition of each person's fundamental right to a healthful environment.

Sec. 102 provides for the integration of the policies and goals set forth in Section 101 into the existing activities of the Federal agencies.

In many areas of Federal action there is no body of experience or precedent for substantial and continuing consideration of environmental factors in governmental decisionmaking. In some areas of Federal activity, existing legislation does not provide clear authority to consider environmental factors which are in conflict with other objectives. In other areas, lack of express authority has been in-

terpreted to prohibit consideration of environmental factors.

To permit all Federal agencies to implement the goals and policies stated in the Act, Sec. 102 authorizes and directs all agencies to follow certain operating procedures:

(a) to utilize a broad interdisciplinary team approach in the planning of Federal projects and activities which have an impact on environmental values,

(b) to develop new methods of evaluating environmental values which are at present not considered in cost-benefit analysis and other methods used in Federal decision-making,

(c) to accompany each proposal for major activities with explicit findings concerning the environmental impact which will or which may result from the proposed activity,

(d) to study and describe alternatives in instances where environmental conflicts cannot be avoided;

(e) to support international efforts to protect the environmental quality of other nations and the world, and

(f) to recommend legislation which will facilitate the implementation of the policies set forth in the Act.

Sec. 103 provides that the policies and goals set forth in the Act are supplementary to the existing mandates and authorizations of Federal agencies.

TITLE II

Sec. 201 provides authorization for the Federal agencies to include certain environmental management functions among their ongoing activities. These activities include the collection, utilization, and dissemination of ecological and environmental data; research on environmental matters; and assistance to the Council.

Sec. 202 authorizes the President to designate an agency or agencies to perform certain specific functions regarding environmental management including:

1. a program of training and research grants, in the amount ultimately of \$1 million annually,
2. an inventory of Federal projects,
3. an information retrieval system, and
4. assistance and advice to State and local governments.

Sec. 203 would establish a second Deputy Director's position in the Office of Science and Technology. This position was requested by the Bureau of the Budget, and is required to strengthen the organization of OST to support its increasingly broad functions. Among the duties recently assigned to OST is staff support for the President's newly formed Environmental Quality Council.

LEGISLATIVE HISTORY

S. 1075, the National Environmental Policy Act of 1969, was introduced in the 91st Congress on February 18, 1969, by Senator Jackson. Hearings on this and two related bills introduced by Senators Nelson (S. 1752) and McGovern (S. 237) were held on April 16, 1969, before the full Committee on Interior and Insular Affairs.¹ Following a staff study

¹ National environmental policy, hearings held before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong., first sess., on S. 1075, S. 1752, and S. 237, Apr. 16, 1969. S. 1752, as introduced by Senator Nelson, would create a five-member Council on Environmental Quality in the Office of the President. This Council would be responsible for assisting the President in preparing an annual environmental quality report which would be transmitted to Congress. The report would be reviewed by a Joint Committee on Environmental Quality. The measure would also authorize the Secretary of the Interior to conduct studies of the natural environment, evaluate and disseminate such information, and consult with and provide technical assistance to departments and agencies of the Government.

and consultations with the staff of the Office of Science and Technology and with representatives of a number of the Federal departments, the committee considered S. 1075 in executive session on June 18, 1969. Following the adoption of a number of committee amendments, the measure was ordered reported to the Senate on June 18, 1969. At the request of the Director of the Office of Science and Technology and representatives of the Bureau of the Budget, the committee voted, on July 8, 1969, to reconsider the measure for the purpose of considering additional amendments. The amendments were proposed by the Bureau of the Budget in a July 7, 1969, letter to the chairman of the committee. The proposed amendments to titles I and II of S. 1075 were adopted. Amendments proposed to title III by the Bureau of the Budget were adopted in part and rejected in part. Following the adoption of other amendments suggested by members of the committee, the measure was ordered reported to the Senate on July 8, 1969.

S. 1075, as introduced, was substantially the same measure as S. 2805 which was introduced in the 90th Congress on December 15, 1967, by Senators Jackson and Kuchel. The far-reaching objectives of S. 2805 and similar legislation introduced in the 90th Congress by Members of both Houses were considered at a unique joint House-Senate colloquium convened by the chairman of the Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics on July 17, 1968, to discuss a national policy for the environment.²

Following the colloquium, a "Congressional White Paper" was prepared at the request of Cochairman Henry M. Jackson and George Miller by the Legislative Reference Service, Library of Congress. This document, issued as a joint committee print by the Senate Interior Committee and House Science and Astronautics Committee and distributed to the entire Congress in October 1968, summarized the key points raised in the dialog between Members of the Congress and the colloquium participants which included five Cabinet Secretaries, the President's Science Adviser, Mr. Laurence Rockefeller, and Dean Don K. Price of Harvard.

A special report to the Committee on Interior and Insular Affairs on "A National Policy for the Environment" was prepared for the committee's use and was printed as a committee print on July 11, 1968. The report was prepared by Dr. Lynton K. Caldwell of Indiana University and William J. Van Ness, Special Counsel to the committee. The report was used as a background document for the colloquium. It raises and discusses in detail many of the issues and questions implicit in establishing a national environmental policy.

S. 237, as introduced by Senator McGovern, would require that the President transmit to the Congress an annual report on the state of the environment. The measure would also authorize the creation of a Council of Advisers on Resources, Conservation, and the Environment which would be in the Executive Office of the President. The three-member Council would assist the President in the preparation of the annual report and in developing and recommending national policies to maintain and improve the environment. For the purpose of consideration of the annual report and plan, this bill would establish in the Senate and the House, special committees to be known as the Select Committees on Resources, Conservation, and Environment.

² The proceedings were published under the title: "Joint House-Senate Colloquium To Discuss a National Policy for the Environment," hearing before the Committee on Interior and Insular Affairs, U.S. Senate, and the Committee on Science and Astronautics, U.S. House of Representatives, 90th Cong., 2d sess., July 17, 1968.

Many of the concepts and ideas incorporated in S. 1075 were drawn from ambitious measures introduced in previous Congresses. Of particular relevance were S. 2549, the Resources and Conservation Act, introduced by Senator Murray in 1959 and S. 2282 introduced by Senator Nelson in the 89th Congress. The Murray bill, endorsed by a distinguished group of Senators in the 86th and subsequently in the 87th Congress, called for the establishment of more efficient machinery in the President's Office to coordinate resource conservation on the basis of national goals. The Nelson bill included broad provisions to cope with inadequate use and application by Federal agencies of ecological knowledge and research methods for attaining better management of our physical environment. Extensive hearings were held on each of these and other environmental measures before the Senate Interior Committee.³

Other concepts and ideas incorporated into S. 1075 were drawn from the proceedings of the previously mentioned joint House-Senate colloquium, from technical reports, conferences and symposia, and from books and journals dealing with environmental problems.⁴

In addition, the committee has reviewed and drawn upon concepts and ideas incorporated into many measures introduced in this and previous Congresses related to various aspects of environmental management.⁵

STATEMENT BY SENATOR HENRY M. JACKSON

Over the years, in small but steady and growing increments, we in America have been

³ Proposed Resources and Conservation Act of 1960, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 86th Cong., second sess. on S. 2549, Jan. 25, 26, 28, and 29, 1960. Ecological Research and Surveys, hearings before the Committee on Interior and Insular Affairs, U.S. Senate, 89th Cong., second sess., April 27, 1966, on S. 2282.

⁴ For a detailed listing of these documents see app. A, entitled "A Documentation on Environmental Problems," p. 25, in A National Policy for the Environment, committee print, Senate Interior and Insular Affairs Committee, July 11, 1968; see also the "Bibliography on Environmental Issues," pp. 192-204 in National Environmental Policy, hearing before the Committee on Interior and Insular Affairs, U.S. Senate, 91st Cong. on S. 1075, S. 237, and S. 1752, Apr. 16, 1969.

⁵ In the closing days of the 90th Cong., the Legislative Reference Service tabulated over 100 bills which were directly concerned with environmental issues, covering a broad area of interest—cleaning up the Nation's rivers and better approaches to smog control, improving the use of open space and prevention of disorderly encroachment by super-highways, factories and other developments, improved protection of areas of high fertility, wiser application of pesticides, whose residues affect both man and wildlife, and the control of urban sprawl, unsightly junkyards, billboards, and power facilities that lower the amenities of landscape.

In the present Congress, an initial tabulation indicates that over 40 bills have been introduced which are concerned either with a national policy for the environment or the establishment of machinery to study the overall problems of the human environment. Of the 16 standing committees of the Senate, eight have broad jurisdiction of this type of legislation. Of the 21 House standing committees, 11 are similarly involved. See "A National Policy for the Environment," app. B, p. 29, committee print of the Senate Interior and Insular Affairs Committee, July 11, 1968; "Congressional White Paper on A National Policy for the Environment," app. p. 17, Senate Committee on Interior and Insular Affairs and the House Committee on Science and Astronautics, October 1968; and Legislative Reference Service Multith, TP 450, SP 170 entitled "Environmental Quality: Selected Bills and Resolutions," June 20, 1969.

making very important decisions concerning the management of our environment. Unfortunately, these haven't always been very wise decisions. Throughout much of our history, the goal of managing the environment for the benefit of all citizens has often been overshadowed and obscured by the pursuit of narrower and more immediate economic goals.

It is only in the past few years that the dangers of this form of muddling through events and establishing policy by inaction and default have been very widely perceived. Today, with the benefit of hindsight, it is easy to see that in America we have too often reacted only to crisis situations. We always seem to be calculating the short-term consequences of environmental mismanagement, but seldom the long-term consequences or the alternatives open to future action.

This report proposes that the American people, the Congress, and the administration break the shackles of incremental policymaking in the management of the environment. It discusses the need for a national environmental policy and states what some of the major elements of such a policy might be. It also raises a number of questions implicit in the establishment of such a broad-based and far-reaching policy.

The report does not purport to deal exhaustively with these subjects. Rather, it attempts to place some of the fundamental questions concerning the need for and the elements of a national environmental policy in the arena of public debate. If the report is successful in encouraging discussion and in refining some of the issues involved, it will have performed a worthwhile purpose. In the last few years, it has become increasingly clear that soon some President and some Congress must face the inevitable task of deciding whether or not the objective of a quality environment for all Americans is a top-priority national goal which takes precedence over a number of other, often competing, objectives in natural resource management and the use of the environment. In my judgment, that inevitable time of decision is close upon us.

If we are to make intelligent decisions which are not based in the emotion of conservation's cause celebre of the moment or in the error of simply perpetuating past practices, there is a very real need to develop a national capacity for constructive criticism of present policies and the development of new institutions and alternatives in the management of the environmental resources of land, air, water, and living space. Developing this capacity will require that representatives from all elements of our national life—industry, the university, Federal, State, and local government—participate in forming this policy. It will require the creative utilization of technology to improve environmental conditions and to prevent unanticipated future instances of costly abuse. It will also require that government, business, and industry pay closer attention to a far greater range of alternatives and potential consequences when they make environment-affecting decisions than they have in the past.

Finally, it needs to be recognized that the declaration of a national environmental policy will not alone necessarily better or enhance the total man-environment relationship. The present problem is not simply the lack of a policy. It also involves the need to rationalize and coordinate existing policies and to provide a means by which they may be continuously reviewed to determine whether they meet the national goal of a quality life in a quality environment for all Americans. Declaration of a national environmental policy could, however, provide a new organizing concept by which governmental functions could be weighed and evaluated in the light of better perceived and better understood national needs and goals.

This report was prepared for the use of the Senate Interior Committee by Prof. Lynton K. Caldwell, chairman, Department of Government, Indiana University, with the assistance of Mr. William J. Van Ness, special counsel to the committee, and the Natural Resources Division, Legislative Reference Service, Library of Congress. Professor Caldwell's contribution was, in part, made possible through an arrangement with the Conservation Foundation.

A NATIONAL POLICY FOR THE ENVIRONMENT INTRODUCTION

This report is based upon the assumption that the threat of environmental mismanagement and deterioration to the security and welfare of the United States has been established. (See app. A.) There are differences of opinion as to the severity and relative urgency of various hazards to the environment. Some scientists believe that man's environmental relationships have reached a point of crisis; others do not see the condition of the environment generally as having yet reached a critical stage. But there is, nevertheless, general consensus throughout most walks of life that a serious state of affairs exists and that, at the least, it is approaching a crisis of national and international proportions. The focus of this report is therefore on national policy to cope with environmental crisis, present or impending, rather than with documenting the facts related to environmental deterioration.

PART I—REQUIREMENTS FOR POLICY EFFECTIVENESS

Effective policy is not merely a statement of things hoped for. It is a coherent, reasoned statement of goals and principles supported by evidence and formulated in language that enables those responsible for implementation to fulfill its intent. This section of the report describes some of the interrelating conditions that appear necessary to an effective national policy for the environment. The discussion will be developed under the following five headings:

- (1) Understanding Imminent Need.
- (2) Recognizing Costs.
- (3) Marshaling Relevant Knowledge.
- (4) Facilitating Policy Choice.
- (5) National Policy and International Cooperation.

1. Understanding imminent need

An effective and enlightened environmental policy is a response to the needs of man in relation to his environment. The response may involve the control of man's behavior on behalf of the larger interests of mankind where those interests are clearly perceived and widely held. Man's relationship with his environment are, of course, multitudinous and complex. Control by governments, by international organizations, or by other institutions, cannot feasibly be extended to every aspect of the environment nor to more than a fraction of the actual points of impact of individual man upon his environment. Policy effectiveness consequently depends very largely upon the internalization, in the human individual, of those understandings, values, and attitudes that will guide his conduct in relation to his environment along generally beneficial lines. A major requisite of effective environmental policy is therefore intelligent and informed individual self-control.

There is substantial evidence to indicate that large numbers of Americans perceive the need for halting the spread of environmental decay. It is also evident, however, that few recognize the connection between the conditions which they deplore, and the absence of any explicit and coherent national policy on behalf of environmental quality.

Man is confronted by a circumstance that is totally new in human history. He has rapidly completed the occupancy of the easily

inhabitable areas of the earth while his numbers have increased at an exponential and accelerating rate. Simultaneously, unprecedented economic power and advances in science and technology have permitted man to make enormously increased demands upon his environment. In no nation are these coincidental developments more dramatically evident than in the United States. And yet many Americans find it difficult to understand why sound environmental management should now suddenly become "everybody's business." Long-accepted ways of thinking and acting in relation to one's surroundings are now being called into question. Understanding of what has happened can be helped by a simple exercise in arithmetic.

At the time of the American Revolution the total human population of the present-day continental United States could hardly have exceeded 3 million individuals. The demands of the American Indian and European colonists on the Atlantic seaboard were very light when contrasted with current exactions. By the close of the 20th century, if the population of this same area approximates 300 million, the daily stress man places on the environment will, on the basis of mere numbers, have increased 100 times over. Technology has alleviated some forms of stress (as on forests for fuel or on wildlife for food), but it has greatly increased environmental stress in general. The net result has been enormously increased demands upon the environment in addition to the increase in population. Calculation of an average per man-year stress upon the environment, estimated from A.D. 1700 to 2000, and adjusted for technological factors at particular historical periods, would be a powerful persuader of the need for a sensitive and forward-looking national environmental policy. The exponential increase in the pressure of man and his technology upon the environment, particularly since World War II, is the major cause of the need for a national environmental quality effort.

The rate at which the Nation has changed since 1890 when the frontier officially ceased to exist has been unexceeded by any other social transformation in history. Scarcely one long generation removed from the last days of the frontier, America has become an urbanized and automated society with publicly institutionalized values in social security, labor relations, civil rights, public education, and public health that would have been utopian less than a century ago. In the absence of a system for adequately assessing the consequences of technological change, who could have predicted the many ways in which applied science would transform the conditions of American life? Powerful new tools applying the discoveries in chemistry, physics, biology, and the behavioral sciences were put to work for improving the health, wealth, comfort, convenience, and security of Americans. Utilizing the vast natural resources of the American environment, the world's highest standard of living was achieved in an amazingly short period of time. Unfortunately, our productive technology has been accompanied by side effects which we did not foresee. Experience has shown us that there are dangers as well as benefits in our science-based technology. It is now becoming apparent that we cannot continue to enjoy the benefits of our productive economy unless we bring its harmful side effects under control. To obtain this control and to protect our investment in all that we have accomplished, a national policy for the environment is needed.

Although Americans have enjoyed prodigious success in the management of their economy they have been much less successful in the management of natural resources. As a people we have been overly optimistic,

careless, and at times callous in our exactions from the natural environment. The history of soil exhaustion and erosion, of cut-over forest lands, of slaughtered wildlife document a few of our early failures to maintain the restorative capacities of our natural resources. Fortunately many of these early failures have been corrected or are now being remedied. But our exploding population and technology have created more subtle dangers, less easily detected and more difficult to overcome.

These more recent dangers have been documented in testimony before the Congress and in the reports of scientific committees (app. A). They confront us with the possibility that the continuation of present trends affecting, for example, (a) the chemistry of the air, (b) the contamination of food and water, (c) the use of open land and living space, and (d) the psychophysical stress of crowding, noise and interpersonal tension on urban populations, may infinitely degrade the existence of civilized man before the end of this century. These are not the exaggerated alarms or unsubstantiated predictions of extremists; they are sober warnings of competent scientists supported by substantial demonstrable evidence. The practical course is, therefore, to forestall these threats before they have outgrown our technical, economic, legal, and political means to overcome them. Fortunately, we still have a choice in this matter. We still have a relatively wide range of alternatives available in managing the environment.

It may be contended that the problems of the environment must wait until more urgent political issues are resolved. Problems of national security, poverty, health, education, urban decay, and underdeveloped nations have just and appropriate claims for priority in national attention and public expenditure. Yet many aspects of these problems involve environmental policy. Three of the most urgent—the slums and ghettos of the great cities; increasing disability and death from diseases induced by environmental factors (for example, cancer, emphysema, mental disorders); and the decline and decay of rural areas (for example, in Appalachia) furnish persuasive reasons for a national environmental policy. Before billions of dollars are spent in attempts to alleviate these social ills, it would be wise to be sure that environmental factors causing or accompanying these conditions are properly identified and remedied. We may otherwise worsen the state of our economy and environment without solving the underlying social problems.

In summary, within the present generation the pressures of man and technology have exploded into the environment with unprecedented speed and unforeseen destructiveness. Preoccupied with the benefits of an expanding economy the American people have not readily adopted policies to cope with the attendant liabilities. Popular understanding of the need to forestall the liabilities in order to preserve the benefits is now becoming widespread, and provides the political rationale for the development of a national policy for the environment, and for a level of funding adequate to implement it.

2. Recognizing costs

The nation long ago would probably have adopted a coherent policy for the management of its environment, had its people recognized that the costs of overstressing or misusing the environment were ultimately unavoidable. This recognition was arrived at belatedly for several reasons: *First*, environmental deterioration in the past tended to be gradual and accumulative, so that it was not apparent that any cost or penalty was being exacted; *second*, it seemed possible to defer or to evade payment either in money or in obvious loss of environmental assets; *third*, the right to pollute or degrade the environment (unless specific illegal damage

could be proved) was widely accepted. Exaggerated doctrines of private ownership and an uncritical popular tolerance of the side effects of economic production encouraged the belief that costs projected onto the environment were costs that no one had to pay.

This optimistic philosophy proved false as many regions of the Nation began to run out of unpolluted air and water, as the devastation of strip mining impoverished mining communities, as the refuse of the machine age piled up in manmade mountains of junk, as the demand for electricity and telecommunications arose to fester on the Nation with skeins of cables strung from forests of poles, and as the tools of technology increasingly produced results incompatible with human well-being. Under the traditional "ground rules" of production, neither enterprise nor citizen was called upon to find alternatives or to pay for measures that would have prevented or lessened ensuing loss of environmental quality. Payment contained to be exacted in the loss of amenities the public once enjoyed, and in the costs required to restore resources to usefulness and to support the public administration that environmental deterioration entailed. When the public began to demand legislation to control pollution and to prevent environmental decay, the reaction of those involved in environmental degrading activities was often one of counter-indignation. Businessmen, municipalities, corporations and property owners were confronted with costs in the form of taxes or the abatement of nuisances that they had never before been called upon to pay. They were now about to be penalized for behavior which America had long accepted as normal.

What is now becoming evident is that there is no way in the long run of avoiding the costs of using the environment. The policy question is not whether payment shall be made; it is when payment shall be made, in what form, and how the costs are to be distributed. Hard necessity has made evident the need for payment to obtain air and water of quality adequate to meet at least minimum standards of health and comfort. Scientific knowledge and rising levels of amenity standard have added to public expectation that protection against environmental damage will be built into the products and production costs of manufacturers.

Lack of a national policy for the environment has now become as expensive to the business community as to the Nation at large. In most enterprises a social cost can be carried without undue burden if all competitors carry it alike. For example, industrial waste disposal costs can, like other costs of production, be reflected in prices to consumers. But this becomes feasible only when public law and administration put all comparable forms of waste-producing enterprises under the same requirements. Moreover it has always been an advantage to enterprise to have as clear a view as possible of future costs and requirements. When public expectations and "ground rules" change, however, as they have been changing recently on environmental quality issues, the uncertainty of resulting effects upon business costs, and the necessity for adjustment to unexpected expenses and regulations, is disconcerting and hardly helpful.

A national policy for the environment could provide the conceptual basis and legal sanction for applying to environmental management the methods of systems analysis and cost accounting that have demonstrated their value in industry and in some areas of government. It has been poor business, indeed, to be faced with the billions of dollars in expense for salvaging our lakes and waterways when timely expenditures of millions or timely establishment of appropriate policies would have largely preserved the amenities that we have lost and would have made unnecessary the cost of attempted restoration. A national system of environmental cost

accounting expressed not only in economic terms but also reflecting life-sustaining and amenity values in the form of environmental quality indicators could provide the Nation with a much clearer picture than it now has of its environmental condition. It would help all sectors of American society to cooperate in avoiding the overdrafts on the environment and the threat of ecological insolvency that are impairing the national economy today.

It is not only industrial managers and public officials who need to recognize the unavoidable costs of using the environment. It is, above all, the individual citizen because he must ultimately pay in money or in amenities for the way in which the environment is used. If, for example, he likes to eat lobster, shrimp or shellfish, the citizen must reconcile himself to either paying dearly for these products or indeed finding them unobtainable at any price, unless we find ways to preserve America's coastline and coastal waters. The individual citizen may also have to pay in the cost of illness and in general physical and psychological discomfort. And these costs, of course, are not incurred voluntarily.

In the interest of his welfare and of his effectiveness as a citizen the individual American needs to understand that environmental quality can no longer be had "for free." Recognition of the inevitability of costs for using the environment and of the forms which these costs may take is essential to knowledgeable and responsible citizenship on environmental policy issues.

In summary, the American people have reached a point in history where they can no longer pass on to nature the costs of using the environment. The deferral of charges by letting them accumulate in slow attrition of the environment, or debiting them as loss of amenities will soon be no longer possible. It is no longer feasible for the American people to permit it. The environmental impact of our powerful, new, and imperfectly understood technology has often been unbelievably swift and pervasive. Specific effects may prove to be irreversible. To enjoy the benefits of technological advance, the price of preventing accidents and errors must be paid on time. From now on "pay-as-you-go" will increasingly be required for insuring against the risks of manipulating nature. This means merely that provision must be made for the protection, restoration, replacement, or rehabilitation of elements in the environment before, or at the time, these resources are used. Later may be too late.

3. Marshaling relevant knowledge

For many years scientists have been warning against the ultimate consequences of quiet, creeping, environmental decline. Now the decline is no longer quiet and its speed is accelerating. The degradation is destroying the works of man as well as of nature. We are confronted simultaneously with environmental crisis in our cities and across our open lands and waters. The crisis of the cities and the crisis of the natural and rural environments have many roots in common, although they may erroneously be viewed as extraneous to one another, or even as competitive for public attention and taxation. In fact, both crises stem from an ignorance of and a disregard for man's relationship to his environment.

An effective environmental policy in the past might have prevented and would certainly have focused attention upon the wretched conditions of urban and rural slums. It would surely have stimulated a search for knowledge that could have helped to correct and prevent degraded conditions of living. It is now evident that the fabric of American society can no longer contain the growing social pressure against slum environments. Today, remedial measures are being forced by social violence and by the social and economic costs of environmental decay;

but it is not certain that the remedies take full account of the nature of the ailment. The pressure upon the urban environment is acute and overt; it is dramatized, it has obvious political implications, and it hurts. Conversely, the degradation of natural and rural environments is more subtle. Stress may reach the point of irreparable damage before there is full awareness that a danger exists. What is needed therefore is a systematic and verifiable method for periodically assessing the state of the environment and the degree and effect of man's stress upon it, as well as the effect of the environment and environmental change on man.

One would expect to be able to look to the universities and to the great schools and institutes of agriculture, engineering, and public health as constituting an environmental intelligence system. Unfortunately however, no such system exists. Man-environment relationships per se have seldom been studied comprehensively. Various disciplines have concerned themselves with particular aspects of environmental relationships, Geographers, physiologists, epidemiologists, evolutionists, ecologists, social and behavioral scientists, historians, and many others have in various ways contributed to our knowledge of the reciprocal influences of man and environment. But the knowledge that exists has not been marshaled in ways that are readily applicable to the formulation of a national policy for the environment. At present, there are many gaps in our knowledge of the environment to which no discipline has directed adequate attention.

It should not be surprising that there is a lack of organized knowledge relating to environmental relationships. Society has never asked for this knowledge, and has neither significantly encouraged nor paid for its production. By way of contrast, public opinion has supported the costs of high-energy physics as reasonable, even though direct and immediate applications to public problems are relatively few. But public opinion has been guided in part by the judgment of the scientific community and of the leaders of higher education. Only recently have the scientific community and the universities begun to interest themselves institutionally in man-environment relationships, perceived in the totality in which they occur in real life.

Environmental studies in the universities are as yet largely focused on separate phases of man-environment relationships. This, in itself, is not undesirable; it is in fact necessary to obtain the degree of specialization and intensive study that many environmental problems require. The inadequacy lies in the lack of means to bring together existing specialized knowledge that would be relevant to the establishment of sound policies for the environment. There is also need for greatly increased attention to the study of natural systems, to the behavior of organisms in relation to environmental change, and to the complex and relatively new science of ecology. There is need for synthesis as well as for analysis in the study of man-in-environment.

A reciprocal relationship exists between the interests of public life and the activities of American universities. Public concern with a social problem when expressed in terms of public recognition or financial support, stimulates related research and teaching in the colleges and universities. Research findings and teaching influence the actions of government and the behavior of society. This relationship has been exceptionally fruitful in such fields as agriculture, medicine, and engineering. It has not, as yet, developed strength in the field of environmental policy and management. Nevertheless a beginning is being made in some colleges and universities, and in a number of independent research organizations and foundations, to provide a more adequate informational base for environmental policy.

Recognition of the need for a more adequate informational base for environmental policy has not been confined to academic institutions or to government. Speaking to the 1967 plenary session of the American Institute of Biological Sciences, Douglas L. Brooks, president of the Traveler's Research Center, declared that " * * * We need to recognize environmental quality control as a vital social objective and take steps to establish the field of environmental management as a new cross-disciplinary applied science professional activity of extraordinary challenge and importance."

To date, action by Government to assist the marshaling of relevant knowledge has been uncoordinated and inconstant. With the exception of defense and space-related technical investigations, the amount of money made available for environmental research has been relatively meager and has been allocated largely along conventional disciplinary lines. Specialized aspects of research on man-environment relationships have been well funded by the Atomic Energy Commission, the Department of Defense, and the National Aeronautics and Space Administration. But much of this work is highly technical and is appropriately directed toward problems encountered in the missions of these agencies. More broadly based are the interests of the National Science Foundation, but the Foundation's resources for funding academic research relating to environmental policy are small. For a brief period the most promising source of support for the kind of knowledge needed for environmental policy effectiveness was the U.S. Public Health Service. In the mid-1960's, the Service began to assist the establishment of broadly based environmental health science centers in selected universities. But a shift of emphasis in the Public Health Service brought this effort to an untimely standstill. The National Institutes of Health fund a significant body of health-related environmental research, but little of it appears to be policy-related.

The Science Information Exchange of the Smithsonian Institution, surveying the general field of Government-funded research for the Senate Interior and Insular Affairs Committee, found (not unexpectedly) that there were heavy concentrations of research where Government funding was heaviest— notably in physical science and the biomedical aspects of the environs. Government-funded research of broadly cross-disciplinary or policy-oriented character appeared to be almost negligible in volume and in funding. It is probable that policy problems are investigated in the course of substantive research; but it is evident that we have not yet made a conscious decision to organize and fund the effort which students of environmental policy and management see as the necessary first step to an adequate environmental information system.

To provide facilities and financial support for new research on natural systems, environmental relationships and ecology on an independent, but publicly financed basis, a National Institute of Ecology has been proposed by a group of scientists associated with the Ecological Society of America and assisted by the National Science Foundation. The functions proposed for this institute are worth restating in brief, as indicative of the contribution that ecologists would like to make toward strengthening the Nation's capacity to cope with its environmental problems. Defining ecology to be " * * * the scientific study of life-in-environment," the proponents of a National Institute of Ecology state that it is needed (1) to conduct large-scale multi-disciplinary field research beyond the capacities of individual researchers or research institutions, (2) to provide a central ecological data bank on which ecologists and public agencies can draw, (3) to coordinate and strengthen activities of ecologists in relation to ecological issues in pub-

lic affairs, and to promote the infusion of ecology into general education at all levels, and (4) to perform advisory services for government and industry on active programs affecting the environment. The principle purpose of the proposed institute is not, however, to study public policy or education, but to do more and better ecology.

These efforts and proposals, and many others unreported here, are constructive contributions to the task of marshaling the knowledge needed for an effective national policy for the environment. They do not, however, add up to a national information system, nor do they necessarily present information and findings relative to the environment in forms suitable for review and decision by the Nation's policymakers. The ecological research and surveys bill introduced by Senator Gaylord Nelson in the 89th Congress would have established a national research and information system under the direction of the Secretary of the Interior. Similar proposals have been incorporated in a number of bills introduced in the 90th Congress, including S. 2805 by Senators Jackson and Kuchel. (See app. B.) An important difference between the proposals before the 90th Congress and the efforts and proposals described in the preceding paragraphs is that in pending legislation the knowledge assembled through survey and research would be systematically related to official reporting, appraisal, and review. The need for more knowledge has been established beyond doubt. But of equal and perhaps greater importance at this time is the establishment of a system to insure that existing knowledge and new findings will be organized in a manner suitable for review and decision as matters of public policy.

In summary, to make policy effective through action, a comprehensive system is required for the assembly and reporting of relevant knowledge; and for placing before the President, the Congress, and the people, for public decision, the alternative courses of action that this knowledge suggests. With all its great resources for research, data processing, and information transmittal, the United States has yet to provide the financial support and operational structure that would permit these resources to implement a public policy for the environment.

4. Facilitating policy choice

The problem of organizing information for purposes of policy-oriented review leads directly to the need for a strategy of policy choice. Environmental policymaking presents certain organizational difficulties. It must draw heavily upon scientific information and yet it embraces important considerations and issues that are extraneous to science policy. Insofar as environmental policy is dependent upon scientific information, it is handicapped by the insufficiency of the research effort and the inadequacies of information handling described in the preceding paragraphs. In a review of U.S. science policy by the Organization for Economic Cooperation and Development, the European examiners cited environmental problems as one of the areas of inquiry that American science was not well organized to attack. The criticism was directed not at the accomplishments of American science in support of major technical undertakings; it was instead concerned with the absence of a system and a strategy adequate to deal with the problems of the environment, and of social relationships and behavior, on a scale which their comprehensive and complex subject matters require.

Insofar as science is an element in environmental policymaking, the Office of Science and Technology affords a mechanism for enlisting the resources of the scientific community, for establishing study groups and advisory panels on specific issues, and for presenting their recommendations to the President. In the coordination of scientific aspects of environmental policy, the Federal Council of Science and Technology, in as-

socation with the Office of Science and Technology, is the more general of several coordinative or advisory bodies in the executive branch. (See app. C.) The establishment of special councils for marine resources and engineering development, for water resources, for recreation and natural beauty, among other purposes, complicates to some extent the function of policy advice. None of these bodies are constituted to look at man-environment relations as a whole; none provide an overview; none appear fully to answer the need for a system to enable the President, the Congress, and the electorate to consider alternative solutions to environmental problems.

Possible answers to the need for a system to assist national policy choice may be found in legislative proposals to create councils on environmental quality or councils of ecological advisers. These councils are conceived as bridges between the functions of environmental surveillance, research, and analysis, on the one hand, and the policymaking functions of the President and the Congress on the other. The particular and indispensable contribution of the Council to environmental policy would be twofold. The first would be, using S. 2805 for purposes of illustration, " * * * to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation." Most proposals call for a report on the state of the environment from the Council to the President and from the President to the Congress. S. 2805, for example, states that the Council shall provide advice and assistance to the President in the formulation of national policies, and that it shall also make information available to the public. The bill further provides that " * * * The Council shall periodically review and appraise new and existing programs and activities carried out directly by Federal agencies or through financial assistance and make recommendations thereon to the President."

From this enumeration of the Council's functions several inferences may be drawn. *First*, the proposed environmental advisory councils are not science advisory bodies. They are instructed in pending legislative proposals to take specified factors, including the scientific, into account in the course of their analysis and recommendations on environmental policy issues. *Second*, the councils are not primarily research or investigating bodies even though they have important investigatory functions. They are essentially policy-facilitating bodies. *Third*, their functions are those of analysis, review, and reporting. Their nearest functional counterpart is probably the Council of Economic Advisers. *Fourth* and finally, councils on the environment, such as proposed by some of the measures listed in appendix B, must be located at the highest political levels if their advisory and coordinative roles are to be played effectively. For this reason the proposals have generally established the Council in the Executive Office of the President. However, the Technology Assessment Board proposed by Representative Emilio Q. Daddario, which would perform many functions similar to those of the environmental councils, would be an independent body responsible primarily to the Congress.

This brings the discussion to the role of the Congress in facilitating policy choice. Some have found the formal committee structure of the Congress to be poorly suited to the consideration of environmental policy questions. Senator Edmund Muskie has proposed a Select Committee of the Senate on Technology and the Human Environment to facilitate consideration of related environmental issues that would normally be divided among a number of Senate committees. Others have proposed that a Joint Committee on the Environment, representative of

the principal committee of the House and the Senate concerned with environmental policy issues, should be established to review a proposed annual or biennial report of the President on the state of the environment. Many Congressmen, however, feel that the policy of establishing new committees to deal with each new problem area should be resisted and that the present committees should assume their legislative and oversight responsibilities in this area. Meanwhile the informal and practical operations of legislative business permits the present standing committees to function with remarkable speed and dexterity where the will to legislate exists.

In summary, policy effectiveness on environmental issues will require some form of high-level agency in the executive branch for reviewing and reporting on the state of the environment. No existing body seems appropriate for this function. To meet this need, and under various names, a council for the environment has been suggested and has been incorporated in numerous legislative proposals. Provision for a policy assisting body in the executive branch suggests to some the desirability of a comparable committee in the Congress.

5. National policy and international cooperation

In his address to the graduating class at Glassboro State College on June 4, 1968, President Lyndon B. Johnson called for the formation of a permanent "international council on the human environment." The ecological research and surveys bill first offered in 1965 by Senator Gaylord Nelson authorized participation by the United States with "other governments and international bodies in environmental research." Similarly, S. 2805 and other pending measures authorize " * * * environmental research in surrounding oceans and in other countries in cooperation with appropriate departments or agencies of such countries or with coordinating international organizations * * *"

These and other expressions of the willingness and intent of the United States to cooperate with other nations and with international organizations on matters of environmental research and policy reinforce the argument for a national environmental policy. Although the United States could cooperate internationally on many specific issues without a national policy, it could do so more effectively and comprehensively if its own general position on environmental policy were formally and publicly enunciated.

The United States, as the greatest user of natural resources and manipulator of nature in all history, has a large and obvious stake in the protection and wise management of man-environment relationships everywhere. Its international interests in the oceanic, polar, and outer space environments are clear. Effective international, environmental control would, under most foreseeable contingencies, be in the interest of the United States, and could hardly be prejudicial to the legitimate interests of any nation. American interests and American leadership would, however, be greatly strengthened if the Nation's commitment to a sound environmental policy at home were clear.

PART II—QUESTIONS OF IMPLEMENTATION

What significance would adoption of a national policy for the environment hold for the future of government in the United States? At the least, it would signify a determination by the American people to assume responsibility for the future management of their environment. It would not imply an all-inclusive Federal or even governmental environmental administration. The task too widespread, multitudinous, and diverse to be wholly performed by any single agency or instrumentality. There are important roles to be played at every level of government and in many sectors of the nongovern-

mental economy. Nevertheless a new policy, and particularly a major one, is certain to arouse some apprehensions.

In the Federal agencies, among the committees of the Congress, in State governments, and among businesses whose activities impinge directly upon the environment and natural resources, there would be understandable concern as to what changes for them might be implicit in a national policy for the environment. The objection is certain to be raised that Government is already too large and that there are already too many agencies trying to manage the environment. "Please—not one more," will be an oft-repeated plea. These fears, however, are largely those that always accompany a new public effort regardless of its purpose, direction, or ultimate benefit. Very few people oppose, in principle, public action on behalf of quality in the environment. It is implementation that raises questions and arouses apprehension.

It would be unconvincing to assert that no interest, enterprise, or activity will be adversely affected by a national environmental quality effort. There is no area of public policy that does not impose obligations upon, nor limit the latitude for action of important sectors of society. But while activities harmful to man's needs and enjoyments in the environment must necessarily be curbed, it is also true that all Americans, without exception, would benefit from an effective national environmental policy. In brief, although all would benefit, a relative few might be required to make adjustments in business procedures or in technological applications.

For the foregoing reasons, a report on the need for a national policy for the environment would be incomplete if it did not raise, at least for purposes of discussion, some major questions that the establishment as such a policy would imply. These are mainly questions of how a decision to establish a national policy would be implemented in practice. They are questions to be answered by the Congress and by the President. But in their answers, the policy-determining branches of Government will need to consider a number of issues subsidiary to those major questions.

To better illustrate the issues involved in these questions, reference will be made to S. 2805. No claim of special priority is implied by these references. Many of the bills now pending on this issue have similar provisions. Any one bill might serve as well as any other.

1. What are the dimensions of an environmental policy and how are they distinguishable from other areas of national concern?

This is the fundamental question. It would be unreasonable to expect that its metes and bounds could be defined more clearly than those of the more familiar policy areas of national defense, foreign relations, civil rights, public health, or employment security. The field of definition can be narrowed, however, by identifying those concepts with which it might be confused but from which it should be clearly distinguished.

Environmental policy, broadly construed, is concerned with the maintenance and management of those life-support systems—natural and man made—upon which the health, happiness, economic welfare, and physical survival of human beings depend. (See app. D.) The quality of the environment, in the full and complex meaning of this term, is therefore the subject matter of environmental policy. The term embraces aspects of other areas of related policy or civic action, and it is important that environmental policy and environmental quality, in the broad sense, be distinguished from these related but sometimes dissimilar policies or movements.

Environmental policy should not be confused with efforts to preserve natural or

historical aspects of the environment in a perpetually unaltered state. Environmental quality does not mean indiscriminate preservationism, but it does imply a careful examination of alternative means of meeting human needs before sacrificing natural species or environments to other competing demands.

Environmental quality is not identical with any of the several schools of natural resources conservation. A national environmental policy would however, necessarily be concerned with natural resource issues. But the total environmental needs of man—ethical, esthetic, physical, and intellectual, as well as economic—must also be taken into account.

Environmental policy is not merely the application of science and technology to problems of the environment. It includes a broader range of considerations. For this reason S. 2805, in proposing a Council on Environmental Quality, does not stipulate that its five members be scientists, although it obviously would not preclude scientists among them.

One of the few differences in emphasis among the environmental policy bills now before the Congress has to do with the role of ecologists and of the science of ecology in the shaping of national policy. The need for a greatly expanded program of national assistance for ecological research and education cannot be doubted by anyone familiar with present trends in the environment. The science of ecology can provide many of the principal ingredients for the foundation of a national policy for the environment. But national policy for the environment involves more than applied ecology, it embraces more than any one science and more than science in the general sense.

The dimensions of environmental policy are broader than any but the most comprehensive of policy areas. The scope and complexities of environmental policy greatly exceed the range and character of issues considered, for example, by the Council of Economic Advisors. One may therefore conjecture, without derogation to the unquestionable importance of the economic advisory function, that a council on the environment would, in time, perhaps equal and even exceed in influence and importance any of the specialized conciliar bodies now in existence. For this reason its membership should be broadly representative of the breadth and depth of national interests in man-environment relationships. The ultimate scope of environmental policy, and the relationship of a high-level implementing council to existing councils, commissions, and advisory agencies, are not questions that can be, or need to be, decided now, nor even at the time that a national policy may be adopted. The important consideration is to develop a policy and to provide a means that will permit its objectives to be considered and acted upon by the Congress, the President, and the executive agencies. If we wait until we are certain of the dimensions of environmental policy and of how it will relate to other responsibilities and functions of Government, our assurance will be of no practical value. It will have come too late to be of much help.

2. Upon what considerations and values should a national environmental policy be based?

If it is ethical for man to value his chances for survival, to hope for a decent life for his descendants, to respect the value that other men place upon their lives, and to want to obtain the best that life has to offer without prejudicing equal opportunities for others, then the cornerstone of environmental policy is ethical. That cornerstone is the maintenance of an environment in which human life is not only possible, but may be lived with the fullest possible measures of personal freedom, health, and esthetic satisfac-

tion that can be found. No government is able to guarantee that these values can be realized, but government is able to assist greatly in the maintenance of an environment where such values are at least realizable.

Ethics, like justice, is not easily quantifiable, yet few would argue that society should not seek to establish justice because justice cannot be adequately defined or quantified. Environmental policy is a point at which scientific, humanistic, political, and economic considerations must be weighed, evaluated, and hopefully reconciled. Hard choices are inherent in many policy issues. The sacrifice of a plant or animal species, for example, or of a unique ecosystem ought not to be permitted for reasons of short-run economy, convenience, or expediency. The philosophy of reverence for life would be an appropriate guiding ethic for a policy that must at times lead to a decision as to which of two forms of life must give way to a larger purpose.

The natural environment has been basically "friendly" toward man. Man's survival is dependent on the maintenance of this environment, but not upon the unaltered operation of all of its myriad components. Pathogenic micro-organisms, for example, are not revered by man. Protection against them is a major task of environmental health and medicine. But even here, respect for the incredible variety, resilience, and complexity of nature is a value that environmental policy would be wise to conserve. Frontal attacks upon man's environmental enemies or competitors, identified as pathogens or as "pests," have miscarried too often to encourage the thought that direct action on threats in the environment are always wise, economical, or effective.

The range of values to be served by environmental policy is broad and an indication of how its scope might be defined may be obtained from the provisions of S. 2805 which specify the considerations to which the Council on Environmental Quality should respond: "Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of this Nation."

The assessment and interpretation of these needs and interests is obviously a function that the members of the Council would have to perform to the best of their ability. No more than in the election of legislators or in the appointment of judges, would it be possible to stipulate how these or other values should be understood and weighted. The reputations and characters of the individuals appointed to the Council would offer the best indications of how the specifications of the law might be construed. But the findings and conclusions of the Council need not be wholly subjective or based upon speculative data. The methods of systems analysis, cybernetics, telemetry, photogrammetry, electronic and satellite surveillance, and computer technology are now being applied to a wide range of environmental relationships. New statistical and computerized simulation techniques are rapidly bringing ecology from what has been described as "one of the most unsophisticated of the sciences," to what may become one of the most complex, intellectually demanding and conceptually powerful of the sciences.

In brief, the values and considerations upon which a national environmental policy should be based should be no less extensive than the values and considerations that men seek to realize in the environment. In the interpretation of these values and considerations science can play a role of great importance. But neither science, nor any other field of knowledge or experience, can provide all of the criteria upon which environmental

policies are based. The full range of knowledge and the contributions of all of the scientific and humanistic disciplines afford the informational background against which value judgments on environmental policy may most wisely be made.

3. How should the information needed for a national environmental policy be obtained and utilized?

Of all major questions on the implementation of environmental policy, this one is probably the least difficult. It is in part a technical question; yet to describe it as technical is not to suggest that it can be easily answered. There is no present system for bringing together, analyzing, collating, digesting, interpreting, and disseminating existing information on the environment. There is accordingly no reliable way of ascertaining what aspects of man-environment relationships are unresearched or hitherto unidentified. The question is less difficult than others primarily because it is clearly possible to design an information system, to fund its implementation, and to put it into effect. The particular form in which the data should finally appear, and the method of its subsequent disposition are more problematic.

Title I of S. 2805, and other measures proposed on behalf of a national environmental policy, make provision for the functions of information gathering, storage and retrieval, dissemination, and for enlarging the available information through assistance to research and training. The detailed provisions of S. 2805 on an environmental information system are numerous and need not be repeated here. The significant feature of these provisions is that they create an information system designed and intended to serve the policymaking processes of government.

Most of the environmental quality bills place this information function under the direction of the Secretary of the Interior. But they relate its data-gathering functions to those of other Federal agencies and they provide for the transmittal of its findings to a high-level reviewing body and to the President and the Congress. In the provision for organizing environmental information into a form that is usable for policy formation, this proposal represents a step toward greater rationality in government and toward the more effective use of modern information systems and technology to serve public purposes.

4. How should a national environmental policy be implemented and periodically reviewed for refinery or revision?

Some innovation and restructuring of policy-forming institutions will be required to achieve the purpose of a national environmental policy. Our present governmental organization has not been designed to deal with environmental policy in any basic or coherent manner. (See app. C). The extent to which governmental reorganization may be necessary cannot be determined absolutely in advance of experience. But it does seem probable that some new facility at the highest levels of policy formulation will be needed to provide a point at which environmental policy issues cutting across the jurisdictional lines of existing agencies can be identified and analyzed, and at which the complex problems involved in man's relationships with his environment can be reduced to questions and issues capable of being studied, debated, and acted upon by the President, the Congress, and the American people. As we have seen, some of the bills on environmental policy now pending in the Senate and the House of Representatives (see app. B) provide a point of focus for this new area of policy through a high-level board or council. Many of these bills provide for periodic reports on the state of the environment to the policy-determining institutions of the Nation—the President and the Congress—and, as these reports are matters of public record, to the American people who must be

the final judges of the level of environmental quality they are willing to support.

As noted in the preceding paragraphs, improved facilities for the finding, analysis and presentation of pertinent factual data are needed. A vast amount of data is now collected by Federal agencies and by private research organizations; but this data is uneven in its coverage of the various aspects of environmental policy. For example, there is a superabundance of technical information on some aspects of environmental pollution, but comparatively little research on the social and political aspects of environmental policy. Much of the data now available is in a form unsuitable for policy purposes. The sheer mass of data, much of it highly technical on certain major environmental problems, is a serious impediment to its use. For this reason, the legislative proposals on national environmental policy provide a system for reinforcing, supplementing, and correlating the flow of information on the state of the environment.

These two major needs, (a) a high-level reviewing and reporting agency and (b) an information gathering and organizing system, are the essential structural innovations proposed in bills now before the Congress for implementing a national environmental policy. Would these additions to the present structure of government be sufficient to implement a national environmental quality program and how in particular would the proposed high level Council be related to other agencies in the federal structure of government?

New policies and programs imply structures appropriate to their functions and may call for new relationships among existing agencies. To construct a comprehensive structure for environmental administration will require time, and meanwhile the need for leadership in informing the people and in formulating policy recommendations and alternatives grows more urgent. It is for this reason that some of the measures which have been introduced propose that a Council for Environmental Quality be established in the Executive Office of the President. In effect, the Council would be acting as agent for the President. It would need information from the various Federal departments, commissions, and independent agencies that, under prevailing organization, it could not as easily obtain if it were located at a level coequal or subordinate to the division of Government whose programs it must review. Reinforcing this consideration is the distribution of environment-affecting activities among almost every Federal agency.

Objections may be raised that there are already too many councils and committees established in the Executive Office of the President. Some students of public administration argue that a simplification of structure and a clarification of existing responsibilities should take precedent over any new programs or agencies. The answer to this objection lies in an assessment of relative priorities. Is each of the councils or comparable agencies now established in the Executive Office of the President more important, of greater urgency, or of more direct bearing upon the public welfare, than the proposed Council on Environmental Quality? What criteria indicate how many conciliar bodies are "too many"? These questions are not merely rhetorical. Although they cannot be answered here, they are obviously germane to the issue of governmental organization and to the way in which national environmental policy is formulated and made effective.

A strong case can be made a major restructuring of the Federal departments in which public responsibility for the quality of the environment would, like defense or foreign relations, become a major focus for public policy. Proposals tending in this direction and chiefly affecting the Department of the

Interior have been made over several decades. A prominent news magazine took up this line of reasoning in a recent editorial declaring that " * * * the Secretary of the Interior ought to be the Secretary of the Environment." But a major restructuring of functions in the Federal administrative establishment cannot be accomplished easily or rapidly. Such a development would be most plausible as a part of a more general restructuring of the executive branch. The multiplication of high-level councils and interagency committees may indicate that a restructuring is needed. (See app. C.) Some of the complexity of present arrangements for policy formulation and review reflects the confusion often attending a transition from one set of organizing concepts to another.

Among the concepts that have been proposed to reduce the burden of the Presidential office and to provide a more simple and flexible administrative structure, is that of the "superdepartment." One of these agencies already exists as the Department of Defense. A Department of the Environment might be another. The substance and character of the organizational changes that superdepartments might imply are germane to a discussion of environmental administration, but they require no further exploration in this report beyond the following three points: *First*, they would be fewer in number than present departments, probably no more than seven to nine; *second*, they would be oriented broadly to services performed for the entire population, and *third*, they would be planning and coordinative rather than directly operational, assuming, to some degree, certain of the tasks that now fall heavily on the Executive Office of the President.

There may be another answer to the need for a more effective review and coordination of related functions in diverse agencies in the concept of "horizontal authority" or matrix organization. This organizational arrangement has been employed in multifunctional, cross-bureau, projects in the Department of Defense and in the National Aeronautics and Space Administration. Under a temporary structure for project management, it structures across normal hierarchical lines and working relationships among the necessary personnel and skills. The concept might be applicable to interagency attack upon specific problems of environmental policy.

Review of national policy, and revision if and when needed, are functions that the Congress performs for all major policies of Government. The device of an annual or biennial report from the President to the Congress on the state of the environment offers the logical occasion for an examination by the Congress, not only of the substance of the President's message, but of national policy itself. In many respects, the transmission of an annual report on the state of the environment accompanied by a clear and concise statement of the Nation's goals, needs, and policies in managing the environment could attain many of the ends sought by those who propose reorganization.

SUMMATION

Although historically the Nation has had no considered policy for its environment, the unprecedented pressures of population and the impact of science and technology make a policy necessary today. The expression "environmental quality" symbolizes the complex and interrelating aspects of man's dependence upon his environment. Through science, we now understand, far better than our forebears could, the nature of man-environment relationships. The evidence requiring timely public action is clear. The Nation has overdrawn its bank account in life-sustaining natural elements. For these elements—air, water, soil, and living space—technology at present provides no substitutes. Past neglect and carelessness are now

costing us dearly, not merely in opportunities foregone, in impairment of health, and in discomfort and inconvenience, but in a demand upon tax dollars, upon personal incomes, and upon corporate earnings. The longer we delay meeting our environmental responsibilities, the longer the growing list of "interest charges" in environmental deterioration will run. The cost of remedial action and of getting onto a sound basis for the future will never be less than it is today.

Natural beauty and urban esthetics would be important byproducts of an environmental quality program. They are worthy public objectives in their own right. But the compelling reasons for an environmental quality program are more deeply based. The survival of man, in a world in which decency and dignity are possible, is the basic reason for bringing man's impact on his environment under informed and responsible control. The economic costs of maintaining a life sustaining environment are unavoidable. We have not understood the necessity for respecting the limited capacities of nature in accommodating itself to man's exactions, nor have we properly calculated the cost of adaptation to deteriorating conditions. In our management of the environment we have exceeded its adaptive and recuperative powers and in one form or another must now pay directly the costs of obtaining air, water, soil, and living space in quantities and qualities sufficient to our needs. Economic good sense requires the declaration of a policy and the establishment of an environmental quality program now. Today we have the option of channeling some of our wealth into the protection of our future. If we fail to do this in an adequate and timely manner we may find ourselves confronted, even in this generation, with environmental catastrophe that could render our wealth meaningless and which no amount of money could ever cure.

APPENDIX A—DOCUMENTATION ON ENVIRONMENTAL PROBLEMS

Following is a partial listing of recent writings on environmental problems subdivided under five headings: (1) "Technical Reports," (2) "Conferences and Symposiums," (3) "Journals," (4) "News Articles and Speeches," and (5) "Books, Yearbooks, and Pamphlets."

PART 1—TECHNICAL REPORTS

The Adequacy of Technology for Pollution Abatement. Report of the Research Management Panel through the Subcommittee on Science Research, and Development to the Committee on Science and Astronautics, U.S. House of Representatives, 89th Congress, 2d session, Washington, 1966.

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Energy R. & D. and National Progress. An interdepartmental study. (The President designated the Director of the Office of Science and Technology and the Chairman of Economic Advisers as Chairman and Vice Chairman of the Steering Committee.)

Environmental Improvement: Air, Water and Soil. Department of Agriculture Graduate School.

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A Strategy for a Livable Environment. Report to the Secretary of Health, Education, and Welfare by a Task Force on Environmental Health and Related Problems.

Use of Pesticides. Report of the President's Science Advisory Committee.

Waste Management and Control. National Academy of Sciences-National Research Council. Publication 1400, 1966.

Weather and Climate Modification. Report of the Special Commission on Weather Modification, National Science Foundation.

Weather and Climate Modification Problems and Prospects. Report of the National Academy of Sciences-National Research Council.

PART 2—CONFERENCES AND SYMPOSIUMS

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APPENDIX B—ENVIRONMENTAL LEGISLATION INTRODUCED IN THE 90TH CONGRESS

The two problems—one with respect to national environmental (or resource) policy and the other regarding executive organization—have been the subjects of a large body of proposed legislation. In the 86th Congress, Senator James E. Murray proposed S. 2549 which called for the establishment of a Council of Resource and Conservation Advisers in the Office of the President. Similar or related bills have been introduced in subsequent Congresses. A partial list of bills introduced in the 90th Congress is given below:

SENATE

S. 843. Mr. Mondale and others. February 6, 1967. Government Operations. Full Opportunity and Social Accounting Act: Establishes a Council of Social Advisers, and directs it to compile and analyze social statistics, devise a system of social indicators, help develop program priorities, evaluate the effectiveness and impact of our efforts at all levels of government, and advise the President in the establishment of national social policies.

Requires the President to transmit to Congress an annual report on the state of the Nation's social health, specifying progress made, listing goals for the future and specifying policies for achieving these objectives.

Provides for a joint committee of Congress to review the President's annual report on the state of our social health, just as the Joint Economic Committee exercises oversight responsibility in economic matters.

S. 886. Mr. Moss and others. February 7, 1967. Government Operations. Department of Natural Resources Act: Redesignates the Department of the Interior as the Department of Natural Resources. Transfers various departments from the Department of the Interior and others to the Department of Natural Resources.

S. 1305. Mr. Aliott and others. March 15, 1967. Labor and Public Welfare. Provides that the President shall transmit to the Congress by January 20, of each year, a report on science and technology which shall set forth (1) the existing major policies of both Federal and non-Federal research organizations, (2) the impact of major developments of science in the progress of such programs, (3) major goals of the Federal Government and of private research organizations, (4) financial information on the funding of science and research projects across the Nation, and (5) his recommendations for necessary legislation.

Establishes a Joint Committee on Science and Technology composed of eight Members of the Senate appointed by the President of the Senate and eight Members of the House, appointed by the Speaker, to assist the President by holding hearings and collecting relevant data, in the compilation of material for the report.

S. 1347. Mr. Javits. March 21, 1967. Labor and Public Welfare. Establish a 12-member Federal Council of Health within the Executive Office of the President, appointed by the President for 3-year terms to (1) make recommendations and continuous evaluation of policies and programs related to the Nation's health, including disaster planning, (2) initiate study and development measures designed to assure the provision of adequate health manpower, services, and facilities and to moderate the rising trend in the cost of medical care, and (3) to advise and consult with Federal departments and agencies, including the Budget Bureau, on policies and programs concerned with health services, manpower, and facilities.

S. 2789. Mr. Nelson. December 14, 1967. Interior and Insular Affairs. Authorizes the Secretary of the Interior to conduct a program of research, study and surveys, documentation and description of natural environmental systems of the United States for the purposes of understanding and evaluating the condition of these systems and to provide information to those concerned with natural resources management. Authorizes the establishment of an advisory committee.

S. 2805. Messrs. Jackson and Kuchel. December 15, 1967. Interior and Insular Affairs. Authorizes the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality. Establishes a Council on Environmental Quality.

S. 3031. Mr. Nelson. February 26, 1968. Public Works. Requires the President to make an annual environmental quality report to Congress and provides that the report set forth (1) the status and condition of the major natural, manmade, or altered environmental systems of the Nation, and (2) the current and foreseeable trends in management and utilization of such environments and the effect of those trends on the social, economic, and other requirements of the Nation.

Creates a five-member Council on Environmental Quality, members to be appointed by the President and by and with the advice and consent of the Senate, in the Executive Office of the President and directs it to oversee the program of the Federal, State, and local governments to (1) determine to what extent these activities are contributing to the achievement of environmental quality and (2) gather, analyze, and interpret conditions and trends in environmental quality.

Provides that the principal task of the Council be to develop within a 5-year period comprehensive national policies and programs to improve and maintain the quality of our environment.

S. Res. 68. Mr. Muskie and others. January 25, 1967. Government Operations. Provides for the establishment of a Select Committee on Technology and Human Environment.

HOUSE

H.R. 258. Mr. Bennett. January 10, 1967. Interior and Insular Affairs. Authorizes the Secretary of the Interior to conduct a program of research, study and surveys, documentation, and description of the natural environmental systems of the United States for the purposes of understanding and evaluating the condition of these systems and to provide information to those concerned with natural resources management. Authorizes the establishment of advisory committees.

H.R. 3753. Mr. Dingell. January 25, 1967. Government Operations. Consolidates water quality management and pollution control authorities and functions in the Secretary of the Interior who shall administer such functions through the Federal Water Pollution Control Administration.

H.R. 4480. Mr. Hathaway. February 1, 1967. Government Operations. Marine and Atmospheric Affairs Coordination Act: Establishes an Executive Department of Marine and Atmospheric Affairs headed by a Secretary appointed by the President with the advice and consent of the Senate. Provides for the appointment of an Under Secretary and three Assistant Secretaries in the same manner.

Transfers to the Department of Marine and Atmospheric Affairs the functions of the major Government agencies concerned with marine and atmospheric affairs.

Establishes as a function of the Department a new coordinating Office of Marine Geology and Mineral Resources.

Establishes a Joint Committee of Congress for Marine and Atmospheric Affairs to carry out the policies outlined in the act.

H.R. 4893. Mr. Moss. February 6, 1967. Government Operations. Consolidates water quality management and pollution control authorities and functions in the Secretary of the Interior who shall administer such functions through the Federal Water Pollution Control Administration.

H.R. 6698. Mr. Daddario. March 7, 1967. Science and Astronautics. Creates a five-member Technology Assessment Board whose members shall be appointed by the President.

Gives the Board the duty of (1) identifying the potentials of applied research and technology and promoting ways and means to accomplish their transfer into practical use, and (2) identifying the undesirable by-products of such research and technology, in advance, and informing the public of their potential in order to eliminate or minimize them.

Provides for a 12-member General Advisory Council to advise the Board, and provides that the Council members be appointed by the President.

H.R. 7796. Mr. Dingell. March 23, 1967. Interior and Insular Affairs; referred to Science and Astronautics, April 17, 1967. Directs the President to submit to Congress beginning June 30, 1968, an annual environmental quality report setting forth the status and condition of the major natural, manmade, or altered environmental classes of the Nation, with a view toward improving man's living conditions.

Creates a three-member Council on Environmental Quality, appointed by the President, to assist in the compilation, coordination, and preparation of environmental data for the report, together with its recommendations for development and improvement of the Nation's environment.

H.R. 8601. Mr. Blatnik. April 17, 1967. Interstate and Foreign Commerce. Provides for the establishment of regional airshed quality commissions and airshed quality regions when so requested by a Governor of one of two or more contiguous States, and when it is found that there is a threatening air pollution situation in such States, an adequate abatement program does not exist, and that action is necessary to protect the public health. Makes provisions for administration of the airshed quality regions and the commission's duties.

Creates a Federal Air Quality Improvement Administration to administer the provisions of this act and the Solid Waste Disposal Act. Provides that the head of this Administration be appointed by the Secretary of HEW, and provides for the appointment of an additional Assistant Secretary of HEW who shall assist the Secretary in supervising the Federal Air Quality Improvement Administration.

H.R. 10261. Mr. Ottinger. May 23, 1967. Government Operations. Establishes a Council of Social Advisers, and directs it to compile and analyze social statistics, devise a system of social indicators, help develop program priorities, evaluate the effectiveness and impact of our efforts at all levels of government, and advise the President in the establishment of national social policies.

Requires the President to transmit to Congress an annual report on the State of the Nation's social health, specifying progress made, listing goals for the future, and specifying policies for achieving these objectives.

Provides for a joint committee of Congress to review the President's annual report on the state of our social health, just as the Joint Economic Committee exercises oversight responsibility in economic matters.

H.R. 13211. Mr. Tunney. September 28, 1967. Science and Astronautics. Creates in the Executive Office of the President a Council of Ecological Advisers composed of nine members to be appointed by the President by and with the advice and consent of the Senate. Directs the Council to study the national environment and national ecology of

the Nation and report to the President. Grants it necessary powers.

H.R. 15614. Mr. Rosenthal. February 27, 1968. Government Operations. Establishes within the executive department a Department of Health to be headed by a Secretary of Health who should be appointed by the President by and with the advice and consent of the Senate. Provides for the appointment of five Assistant Secretaries and a General Counsel to be appointed by the President by and with the advice and consent of the Senate. Transfers to the new Department are the U.S. Public Health Service, the Vocational Rehabilitation Administration, and St. Elizabeths Hospital.

H. Con. Res. 307. Mr. St. Onge. April 6, 1967. Rules. Establishes a 10-member joint congressional committee to study all the problems involved in the extraordinary pollution of air and the navigable waters of the United States, including the Atlantic and Pacific Oceans and the Gulf of Mexico, by the extraction, manufacture, transportation, or storage of substances harmful to human, animal, or plant life.

H.J. Res. 1321. Mr. Ottinger. June 13, 1968. Judiciary. Amends the Constitution by adding a "conservation bill of rights" asserting the "right of the people to clean air, pure water, freedom from excessive and unnecessary noise, and the natural, scenic, historic and esthetic qualities of their environment."

APPENDIX C—FEDERAL ADMINISTRATION OF ENVIRONMENTAL PROGRAMS

The Federal offices, agencies and committees listed below contribute a substantial share of their time and operating effort to administration and study of environment-oriented programs.

1. FEDERAL AGENCIES

Department of Agriculture

Secretary

Under Secretary:
Agricultural Stabilization and Conservation Service.

Farmers Home Administration.
Rural Community Development Service.
Forest Service.
Soil Conservation Service.
International Agricultural Development Service.

Agricultural Stabilization and Conservation Service.

Agricultural Research Service.
Cooperative State Research Service.
Federal Extension Service.

Department of Commerce

Secretary

Under Secretary:
Assistant Secretary for Science and Technology.

Environmental Science Service Administration.
Environmental Data Service.
Weather Bureau.
Institutes for Environmental Research.
National Environmental Satellite Center.
Coast and Geodetic Survey.

Department of Defense

Secretary

Corps of Engineers.

*Department of Health, Education, and Welfare*¹

Secretary

Under Secretary:
Public Health Service.
Office of the Surgeon General.
Bureau of Disease Prevention and Environmental Control.

National Institutes of Health.
National Center for Air Pollution Control.
National Center for Urban and Industrial Waste.

National Environmental Sciences Center.
Food and Drug Administration.

¹ Currently reorganizing.

Department of Housing and Urban Development

Secretary

Under Secretary:

Assistant Secretary for Metropolitan Development.

Deputy Assistant Secretary:

Land and Facilities Development Administration.

Urban Transportation Administration.

Office of Planning Standards and Coordination.

Department of the Interior

Secretary

Under Secretary:

Office of the Science Adviser.

Office of Ecology.

Office of Water Resources Research.

Assistant Secretary:

Fish and Wildlife and Parks.

Commissioner of Fish and Wildlife.

Bureau of Commercial Fisheries.

Bureau of Sport Fisheries and Wildlife.

National Park Service.

Assistant Secretary of Mineral Resources:

Office of Oil and Gas.

Office of Mineral and Solid Fuels.

Office of Coal Research.

Bureau of Mines.

Geological Survey.

Assistant Secretary of Public Land Management:

Bureau of Indian Affairs.

Bureau of Land Management.

Bureau of Outdoor Recreation.

Assistant Secretary of Water and Power Development:

Bureau of Reclamation.

Bonneville Power Administration.

Southeastern Power Administration.

Southwestern Power Administration.

Assistant Secretary of Water Pollution Control:

Office of Saline Water.

Federal Water Pollution Control Administration.

Department of Justice

The Attorney General

The Deputy Attorney General.

Land and Natural Resources Division.

Department of State

International Boundary and Water Commission—United States and Mexico.

International Scientific and Technical Affairs.

Agency for International Development.

International Joint Commission—United States and Canada.

Department of Transportation

Secretary

Under Secretary:

Transportation Policy Council.

Federal Aviation Administration.

Federal Highway Administration.

Federal Railroad Administration:

Office of High Speed Ground Transportation.

Coast Guard.

Executive Office of the President

The President

Bureau of the Budget.

Council of Economic Advisers.

Federal Committee on the Economic Impact of Pollution Abatement.

Office of Science and Technology:

President's Science Advisory Committee:
Panel on the Environment.

Federal Council for Science and Technology:

Committee on Environmental Quality.

Committee on Water Resources Research.

President's Council on Recreation and Natural Beauty.

National Council on Marine Resources and Engineering Development.

Independent agencies

Atomic Energy Commission.

Civil Aeronautics Board.

Federal Power Commission.
National Aeronautics and Space Administration.
National Science Foundation.
Tennessee Valley Authority.
Water Resources Council.
Appalachian Regional Commission.
Delaware River Basin Commission.
Smithsonian Institution.

2. QUASIGOVERNMENTAL BODIES

National Academy of Sciences-National Academy of Engineering-National Research Council:

Environmental Studies Board: Oversees all environmental quality studies of the NAS, NAE, and NRC. Provides a forum for development and exchange of new ideas and their application to environmental problems.

Committee on Persistent Pesticides.

Committee on Resources and Man.

Committee on Agricultural Land Use and Wildlife Resources.

U.S. National Committee for the International Biological Program.

Agricultural Board.

Committee on Solid Wastes Management.

Committee on Air Pollution.

Committee on Water Quality Management.

Committee on Remote Sensing of the Environment.

Committee Advisory to the Environmental Science Services Administration.

Committee for the Development of Criteria for Nonrail Transit Vehicles.

Committee on Environmental Physiology.

Committee on Water.

Advisory Committee to the Federal Radiation Council.

Building Research Advisory Board.

Committee on SST-Sonic Boom.

Committee on Ocean Engineering.

Committee on Geography.

Committee on Toxicology and the Advisory Center on Toxicology.

Committee on Hazardous Materials.

Ad Hoc Committee on Human Factors in Environmental Change.

Committee on Urban Technology and Committee on Social and Behavioral Urban Research.

Highway Research Board.

Committee on Hearing, Bioacoustics, and Biomechanics.

3. INTERAGENCY COMMITTEES

Source: Federal Council on Science and Technology:

Interdepartmental Committee for Atmospheric Sciences.

Committee on Environmental Quality.

Committee on Scientific and Technical Information.

Committee on Solid Earth Sciences.

Committee on Water Resources Research.

Interagency Committee on Meteorological Services and Interagency Committee on Applied Meteorological Research.

Federal Committee on Pest Control.

Armed Forces Pest Control Board.

Interagency Aircraft Noise Abatement Advisory Committee.

Federal Advisory Committee on Water Data.

Interagency Committee on Coordination of Sewer and Water Programs.

Steering Committee: United States-German Cooperative Program in Natural Resources, Pollution Control and Urban Development.

CONGRESSIONAL WHITE PAPER ON A NATIONAL POLICY FOR THE ENVIRONMENT

PART I. ASPECTS OF ENVIRONMENTAL MANAGEMENT

The colloquium¹ focused on the evolving task the Congress faces in finding more adequate means to manage the quality of the American environment.

In the recent past, a good deal of public interest in the environment has shifted from its preoccupation with the extraction of natural resources to the more compelling problems of deterioration in natural systems of air, land, and water. The essential policy issue of conflicting demands has become well recognized.

Several social attitudes have become the action force in the movement for improved environmental policies and programs. One is the desire for esthetically attractive surroundings. Another is the recognition of the folly of excessive population densities. Still another is the mounting irritation, disgust, and discomfort (aside from actual economic loss) resulting from such anomalies as smoggy air and polluted streams and seashores.

The broad public interest in the natural environment was succinctly defined by a report of the National Academy of Sciences thus:

"We live in a period of social and technological revolution in which man's ability to manipulate the processes of nature for his own economic and social purposes is increasing at a rate which his forebears would find frightening * * * there is a continuing worldwide movement of population to the cities. The patterns of society are being rapidly rearranged, and new sets of aspirations, new evaluations of what constitutes a resource, and new requirements in both types and quantity of resources are resulting. The effects on man himself of the changes he has wrought in the balance of great natural forces * * * are but dimly perceived and not at all well understood. * * * It is evident that the more rapid the tempo of change is becoming, the more sensitive the whole system of resource supply must become in order to cope with the greater rapidity and severity with which inconsistencies, conflicts, and stress from independent innovations will arise. * * * If divergent lines of progress are seen to give rise to ever-greater stresses and strains too fast to be resolved after they have risen and been perceived, then obviously the intelligent and rational thing to do is to learn to anticipate those untoward developments before they arise."²

The statements of participants in the colloquium itself are evidence that the issues of the human environment are important to a broad segment of society.

"Mr. ROCKEFELLER. * * * there is a strong and deep seated concern among the American people for a better environment. The

¹ Joint House-Senate Colloquium to Discuss a National Policy for the Environment. Hearings before the Committee on Interior and Insular Affairs, U.S. Senate, and the Committee on Science and Astronautics, U.S. House of Representatives, 90th Cong., 2d sess., July 17, 1968.

² NAS-NRC Publications 1000 and 1000A (1962).

quality of our surroundings is emerging as a major national social goal (p. 4).³

"Secretary UDALL. One of the things that I take the most encouragement from is simply the growth of sentiment in the Congress, the number of conservationist Congressmen, the number of organizations, however they define themselves, that are interested in the city problem, that are interested in the total environment problem * * * (p. 62)."

The long-term quality of the environment is seen to be dependent on today's decisions. The means of relating the present to the future is not clear, however.

"Secretary UDALL. The real wealth of the country is the environment in the long run. We must reject any approach which inflates the value of today's satisfactions and heavily discounts tomorrow's resources (p. 14).

"Mr. ROCKEFELLER. * * * we have not set down in clear terms what our goals are for the long-run future (p. 5)."

If America is to create a carefully designed, healthful, and balanced environment, we must (1) find equitable ways of charging for environmental abuses within the traditional free-market economy; (2) obtain adequate ecological guidance on the character and impact of environmental change; (3) where corporate resource development does not preserve environmental values, then consider the extension of governmental controls in the larger public interest; (4) coordinate the Government agency activities, which share with industry the dominant influence in shaping our environment; and (5) establish judicial procedures so that the individual rights to a productive and high-quality environment can be assured.

These and other aspects of environmental management—discussed at the Colloquium and submitted in the form of letters or reports for inclusion in the record—are briefly highlighted below.

A. Relationships Among Population Growth, Environmental Deterioration, and the Quality of Life

In an exchange of views on this subject, Secretary Robert Weaver (HUD) pointed out that by 1980 there will be almost 240 million and by the year 2000 about 312 million people in the 48 contiguous States and the District of Columbia, if present projects are borne out. Secretary Stewart Udall (DI) argued that a reasonable adjustment between population growth and our finite resources is required for sound environmental management, while Assistant Secretary Philip Lee (DHEW) contended that we do not presently have the kind of information to determine what the ideal population for this country would be. Dr. David Gates submitted the following observations in the worldwide context:

"It is clear that all segments of the world—all soils, waters, woods, mountains, plains, oceans, and ice-covered continents—will be occupied and used by man. Not a single solitary piece of landscape will go untouched in the future and in fact not be used repeatedly for as long as man survives. Everything between soil and sky will be moved about, redistributed and degraded as man

³ Page nos. in parentheses following quotations refer to the hearing transcript, op. cit.

continues to exploit the surface of the planet. * * * The population will grow until it reaches some equilibrium level. * * * An alternate ultimate destiny is for an earth of half-starved, depressed billions gasping for air, depleted of eutrophic water, struggling to avoid the constant presence of one another and in essence continuing life at a degraded subsistence level limited in numbers not by conscience but by consequence. A third possibility exists which is to maintain a reasonable quality for life by means of population control, rational management of ecosystems, and constructive exploitation of resources. * * * (p. 174)."

The issue of high population densities as a source of growing stresses in our society, with profound effects on health and safety, raised a number of comments. Senator Henry Jackson observed that the apparent cause-and-effect relation of congestion and violence should be a consideration in arriving at any decisions concerning what constitutes an optimum population density.

Dr. Paul Weiss submitted the following caveat:

"A stress free environment offering maximum comfort and minimum challenge is not only not optimal but is detrimental. To be exposed to moderate stress is a means of keeping the human faculty for adapting to stress * * * lacking the opportunity for such exercise, man loses that faculty and becomes a potential victim of an unforeseen, but inevitable, stressful occurrences. The optimum environment consists of a broad band of conditions bounded by an upper limit far short of the stress limit and by a lower limit considerably above the ideal zone of zero stress. Within those margins of reasonable safety or tolerance, man must navigate his own responsibility (p. 224)."

Senator Clifford Hansen suggested that the Federal Government might well consider programs which would provide incentives and opportunities leading to a wider and more balanced dispersal of our people. Assistant Secretary John Baker (USDA) agreed and proposed the creation of new community centers as a matter of national environmental policy. Secretary Weaver commented that any Government policy which has to do with such dispersal must be based on the democratic principle of free choice—including for all of our people the alternatives of living in existing large population centers, suburbia, or new towns.

B. Broadening the scope of cost accounting

Narrow utilitarian views governing the use of environmental resources were cited as the root of many conflicts and a major barrier to sound environmental management.

"Dr. DONALD HORNIG. In my view national policy must recognize the very wide array of appropriate and necessary uses of air and water and land. It would recognize, too, the existence of a number of beneficial but non-compatible uses, and make provision for resolving these conflicts. It should result in an environment that is safe, healthful, and attractive and that is economically and biologically productive, yet that provides for sufficient variety to meet the differing requirements and tests of man (p. 31)."

Congressman Emilio Q. Daddario questioned whether the industrial objective of immediate profit can be made compatible with long-term environmental management objectives. Congressman Joseph Karth observed that the self-interests of some organizations do not coincide with the public interest. Secretary Wilbur Cohen (DHEW) commented that environmental controls may be costly in the short run, but in the long run they are a bargain both for industry and the public it serves: "What we are really seeking is an enlightened self-interest that industry and commerce have often exhibited."

Dr. Lynton K. Caldwell contended that the social costs of environmental management should not be an undue burden on the business community if all competitors carry it alike:

"Scientific knowledge and rising levels of amenity standards have added to public expectation that protection against environmental change will be built into the products and production costs of manufactures (p. 99)."

The point at which compromise among conflicting uses is reached furnishes one test of adequacy of policy.

"Mr. ROCKEFELLER. * * *

"If you take a black and white approach, you are never going to resolve it. You have a lot of hostility and you don't represent the public constructively (p. 63)."

C. The role of ecology

Ecologists dedicated to the study of man-environment relationships were urged to show a greater willingness to engage with industry in what was termed "ecological engineering." However, Dr. Dillon Ripley argued that this subject involves a kind of ecological study which is still in the formative stage:

"I think it may take a generation perhaps to achieve even the beginnings of the kind of training, the kind of production of original minds and talents that will be able to perform the sorts of—studies—which we stress the urgency of (p. 75)."

By contrast, several participants contended that the science of ecology has already established a number of basic principles, or propositions, which could guide the attitudes and actions of both industry and government toward the environment. The following examples are paraphrased from submissions by Dr. Paul Weiss:

"(i) Organic nature is such a complex, dynamic, and interacting, balanced and interrelated system that change in one component entails change in the rest of the system. Isolated analytical study of separate components cannot yield desired insight. To find solutions to separate problems of hydrology, waste disposal, soil depletion, pest control, et cetera, is not adequate to achieve the optimization of environmental resources generally. All factors and their cohesive impact on each other need to be simultaneously considered.

"(ii) The significance or insignificance of mixtures of components and environmental conditions cannot be judged from sheer data on bulk or averages. This fallacy is a pitfall ignored today by some planners, developers, builders, and other practicing manipulators of the environment. Our tendency to maximize a specific change or result too often sacrifices other interrelated parts without optimizing the total result.

"(iii) Similarly, the concept of single, rigid, linear cause-to-effect chains of natural events has given rise to organically unreal and practically untenable conclusions. More attention should be given to the network type of causal relations in an integrated system that establishes a multiplicity of alternative routes to such a goal of optimizing the development of environmental resources."

Commenting on the complexity of the total systems approach, Mr. Don Price stated:

"I am left with the vaguely uneasy feeling that if we see the continuous complex here as one set of interconnecting realities that have to be understood as a total system, we may be broadening our interest so much that it's impossible to act on it at all (p. 64).

"Dr. HORNIG. It is a great thing to talk about systems analysis, but the trouble with that is that you have to put in some facts. And, if you do the analysis when the facts aren't available, you are in trouble.

"* * * it needs a basis in sound research that understands, that gives us clear under-

standing of what the nature of these long-term liabilities are (p. 51)."

D. Redirecting research activities

In addition to increased ecological research, the colloquium touched on the need for the entire scientific community to direct a greater share of its total effort to long-term environmental problems. Mr. Laurance Rockefeller argued that we have not yet fully harnessed this Nation's vast technological talent in the effort for a better environment. Dr. Walter Orr Roberts pointed out that cross-disciplinary research on environmental problems offers the utmost challenge from the intellectual standpoint, and also cited the following as an example of neglected research:

"Only modest efforts have been made to mount a sustained research program on the medical effects involved in the slowly developing health impairments, like aging, that result from low-level but long-persistent alterations of the atmospheric environment. Subtle alterations of the chemical constitution of the atmosphere, through pollutants added in the form of trace gases, liquids, or solids, result from industrial activity or urbanization. This is an area of biometeorology that has significance in every living person, and yet we have not yet seen even the first beginnings of an adequately sustained research effort in this area (p. 216)."

Future values are difficult to judge, particularly when they include non-economic aspects of environmental quality. Social science research and ecology were singled out for increased support.

"Dr. HORNIG. One of the central problems in weighing the future against the present is that we don't know about the future. The reason we can't muster political forces and the reason we can't make decisions is that for the most part the information is not there (p. 51)."

The establishment of criteria for judgment is a primary task of environment management.

"Secretary WEAVER. There are too many things we do not know, basic matters such as how we define quality in the urban environment, how we measure it, and how we strike a balance among competing values (p. 19)."

"Mr. PRICE. There has been a lot of talk lately about social indicators out of a conviction that narrow economic statistical consideration are not an adequate guide to economic policy, and here we are talking about a field in which it is not enough to know about the chemical industry and the biology (p. 67)."

Technology was seen to be the savior as well as the villain in many environmental quality problems.

"Mr. PRICE. There is a tactic or an approach which has received a good bit of attention recently in technological and scientific literature. Mr. Weinberg, I think, called it the technological fix (p. 66)."

"It is obviously true that the development of the specific techniques has proved to be not only the basis of our accumulation of wealth which now makes it possible for us to ask these more sophisticated questions about our environment, to have very much higher standards of environmental control to insist on (p. 68)."

E. International aspects of environmental alteration

The urgent necessity of taking into account major environmental influences of foreign economic assistance and other international developments was underscored by Mr. Russell Train.

Dr. Ivan Bennett commented that the Federal Government is now participating, through the Organization for Economic Cooperation and Development, in a series of

cooperative programs that will encourage the exchange of environmental information.

Senator Henry Jackson recalled President Johnson's remarks at Glassboro State College on June 4 in which he said:

"Scientists from this country and the Soviet Union and from 50 other countries have already begun an international biological program to enrich our understanding of man and his environment. I propose that we make this effort a permanent concern of our nations (p. 83)."

Dr. Roberts questioned whether these and similar ongoing cooperative efforts were fully adequate, and proposed that a broader international scheme of cooperative "benchmark" observations be made. As an example he described the neglected area of stratospheric contamination:

"It is now very difficult for us to say anything quantitative or certain about the degree to which the atmosphere above New York City, or Zurich, Switzerland, or the rural regions of the United States, Europe, and Siberia has been changing in respect to the burden of liquid or solid wastes that jet aircraft carry. I have seen many occasions when the skies over my home city of Boulder, Colo., are crisscrossed with expanding jet airplane contrails. Often these grow, in hours, to a general cirrus cover that blankets the entire sky. On these days it is eminently clear that the jet exhausts are stimulating the formation of a cloud deck. Theory suggests that these clouds, in turn, almost certainly modify the strength of incoming sunlight, and the degree to which outgoing infrared radiation is permitted to escape from the earth to outer space. No one can say for sure, today, to what degree, if any, this alters the weather (p. 217)."

Dr. Ripley summarized the feeling of the colloquium:

"* * * to speak about environmental quality without at least referring to the fact of the international components and consequences of even our activity as Americans and considering our own acreage and our own problems with the environment, appears to me to be somewhat shortsighted (p. 74)."

Senator Edmund Muskie argued that existing conservation policies deal too heavily with the permitted levels of resource exploitation at the expense of the equally important objective of enhancing these same resources.

To overcome this difficulty, Mr. Don Price suggested that countervailing policies might be established which would encourage and even make it profitable for private developers not to pollute, but actually upgrade the quality of our environment through the development of new resource-processing methods.

Assistant Secretary Lee mentioned that in the public health area a great deal of consideration has been devoted to the subtle health effects of many pollutants, but that the management problem of setting standards is made all the more difficult by the constantly changing character of chemicals being added to the environment. As part of the standard setting process, he proposed that it may eventually be necessary to require industries

"* * * to demonstrate a positive beneficial effect, or an enhancement of the environment as suggested by Senator Muskie, rather than just an absence of deleterious effect (p. 71)."

Dr. Harvey Brooks argued that we could easily move too far and

"* * * place a presumption so much against new technology that in fact the disincentives to innovation would create more penalties to the society than the protection to the environment that might be afforded (p. 71)."

Standards which are derived from criteria should not be absolute and unchanging,

thereby compounding further the difficulties in the management decisionmaking process.

"Dr. HORNIG. * * * the minute one sets standards—standards which cost people money—the question immediately comes: what is the basis for these standards? If they don't have a strong credible basis, not only to the Congress, but to the public. We can't enforce the standards (p. 51)."

"Mr. PRICE. How do we set standards? How do we know what we want to do until we can define more accurately our problems and develop some better measurements for it? (p. 67)."

"It gets especially harder when you move away from the physical or the chemical pollution and you get into the esthetic type of consideration (p. 67)."

"Mr. TRAIN. * * * I'm suspicious of talk of absolute standards. I think that there must be a great deal of diversity in whatever we get at (p. 81)."

"Senator MUSKIE. We ought to avoid the straitjacket of Federal standards * * * (p. 44)."

F. The goals of enhancement and recycling

The American landscape is under extraordinary pressure from man-made refuse and other discarded material. Secretary Udall singled out the empty metal beer can as an example:

"Science should come up with containers that readily degrade, disappear, or are made reusable. If we work hard at it, the expense won't be any burden and we won't foist on our grandchildren a mess of some kind as we do so frequently today (p. 50)."

Dr. Gates suggested that the solution to this ubiquitous problem rests in the analogy between natural and human recycling of resources.

"A natural ecosystem recycles its mineral resources. The minerals are taken up into the biomass and on death and decay are returned to the soil. Man leaves his debris of automobiles, cans, bottles, plastics, chemicals, and pavement scattered about the landscape and lets his organic refuse of garbage and sewage be funneled into the rivers and streams to be washed to sea.

"He does not return the used minerals to the factory for reprocessing or the nutrients to the soil, but draws on new concentrated supplies available in nature. Clearly, such a way of life cannot continue indefinitely. Recycling will never achieve 100-percent efficiency; but if it can reach much greater efficiencies than at present, man's lifespan on earth will be much longer (p. 176)."

G. New approaches in Government

Senator Henry Jackson argued that new approaches to environmental management are now required, and urged the Colloquium to provide thoughts on the possible "action-forcing" processes that could be put into operation.

Secretary Udall pointed out the difficulty of reorganizing the executive branch on a strictly environmental basis:

"Let no one suppose there is any organizational panacea for dealing with environmental problems at the Federal level * * *. To combine all programs affecting the environment in one department would obviously be physically impossible.

"Each agency should designate responsible officials and establish environmental checkpoints to be sure they have properly assessed this impact.

"Whether or not new institutional arrangements are accepted, the Bureau of the Budget and the Office of Science and Technology must play a central role in collecting facts, anticipating impacts and providing an early warning system for environmental protection (p. 18)."

Secretary Cohen outlined existing patterns of agency leadership:

"In certain discrete, well-defined areas ac-

tivities have been organized under the 'lead agency' concept * * *. The second pattern involves multiple rather than single agency leadership, primarily because it must accommodate a variety of interests, no one of which takes precedence (p. 38)."

Dr. Donald Hornig stressed the power of the Presidency to coordinate and translate policy into action:

"The principle, the authority for oversight and coordination—and in fact, Executive responsibility for management—is vested in the President; it is exercised through the Executive Office of the President, particularly by the Office of Science and Technology and the Bureau of the Budget in this respect. We have been working very hard on this problem of coordination, and we have made much progress. But, if our efforts turn out to be insufficient, further steps will surely be necessary and new organizational forms may be needed in the Executive Office (p. 32)."

Assistant Secretary Baker related early experiences of the USDA with the systems approach:

"We [Agriculture] are developing a Department-wide systems analysis capability for evaluating and interpreting the on-going programs. * * * We seek to organize our efforts in ways that will make them compatible with efforts that may be undertaken by other agencies (p. 26)."

Secretary Weaver warned of the difficulties in obtaining a regional or "problem-shed" management of environmental quality:

"There is a serious problem of stubborn resistance to change in our political institutions. This is true at the local and State level, where the term 'metropolitan government' is a spark to the tinder, and where needed cooperation among neighboring local governments is sometimes resisted for fear it will lead to metropolitan government * * *. This means that at the Federal level, we should and we have helped create institutions for metropolitan subsystems that can handle problems affecting the environment of whole areas (pp. 20 and 21)."

Mr. Laurance Rockefeller stressed the value of a commission comprising legislative, executive, and private sector members:

"I suggest to you that an effective means of proceeding might be a Commission on Environmental Policy Organization.

"It may be that this tack can be done by some entity less formal than a Commission. The Citizens Advisory Committee on Recreation and Natural Beauty plans to make the environment subject one of its major interests during the coming year.

"The Committee is, of course, directed to make its recommendations to the President and the President's Council on Recreation and Natural Beauty. (pp. 6 and 7.)"

The Congress was discussed in terms of its own organizational confusion in treating environmental issues.

"Mr. ROCKEFELLER. The layman is confused by the organization of Congress in the environmental field. (p. 6.)"

"Secretary UDALL. There is still a lack of overview. (P. 13.) * * * I think Congress ought to be much less bashful about spending more money on strengthening its staff so it can provide the kind of oversight that is needed. (p. 54.)"

"Secretary COHEN. We recommend that the Congress examine its own organization in order to improve its ability to deal in a comprehensive and coordinated manner with the total problem of environmental quality. (p. 40.)"

"Senator ALLOTT. * * * Congress has abrogated its responsibilities to a great extent with respect to legislative oversight. (p. 54.)"

"Mr. PRICE. Congress too might have an eye to its own organization in these matters: How far it would be possible to go on from this kind of occasional informal exchange of views toward either special nonlegislative committees like the Joint Committee on the

Economic Report, perhaps in conjunction with some development within the President's Office; how far pieces of jurisdiction could be carved out for legislative committees; how far the burden of coordination could be forced on the Appropriations Committee * * * (p. 69.)"

PART II. ALTERNATIVES FOR CONGRESSIONAL ACTION

An impressive number and variety of legislative proposals for improving the quality of our environment have been set before the 90th Congress (see appendix). Support for action has come from diverse segments of American society: from the scientific community, from business, and from public affairs groups.

The Congress should move ahead to define clearly the desires of the American people in operational terms that the President, government agencies at all levels, the courts, private enterprise, and the public can consider and act upon.

The ultimate responsibility for protecting the human-serving values of our environment rests jointly with the legislative, executive, and judicial branches of our Government. The Congress, as a full partner, has the obligation to provide comprehensive oversight of all environment-affecting programs of the executive branch, and also to participate in the overall design of national policy, thus serving both as architect of environmental management strategy and as the elaborator of goals and principles for guiding future legal actions.

Under the present organization of the Congress, varying aspects of environmental management (including air and water pollution control, strip mine reclamation, outdoor recreation, housing and space planning in urban areas, highway construction, atmospheric research, oceanography, and rural conservation) are committed to different committees. While there has been a steady expansion of independent committee interest in specific environmental problems, the Congress so far has not evaluated this field in its entirety with a view toward evolving a coherent and unified policy for national environmental management.

It should be recognized that the declaration of a national environmental policy will not alone better or enhance the total man-environment relationship. The present problem is not simply the lack of a policy. It also involves the need to rationalize and coordinate existing policies, and to provide the means by which they may be reviewed continuously, made consistent with other national policies and ranked in reasonable priority.

The proper development of such a far-reaching body of policy raises many difficult organizational, economic and legal problems. Some individuals who were present at the July 17 colloquium suggested that a congressional mandate on the subject of environment, which would necessarily encompass a very wide range of problems and issues, would be impractical and ineffective. Yet others pointed out that equally broad mandates and satisfactory organizing concepts for managing our economic welfare and for guiding the development of atomic energy have been tested over a period of years, with effective machinery now operating both in the executive and legislative branches to evaluate the extent to which national goals and activities in these fields are meeting public expectations and needs.

In any event, to those involved in the colloquium and recent hearings on this subject, it is clear that two functions must be served: coordination and information gathering. Environmental problems cut across so many existing operational organizations that coordination in both the executive and legislative branches must be improved. Further, an effective channel of information exchange and overview must exist between the Con-

gress and the administration. If, for example, an environmental council were established in the Executive Office of the President, as has been proposed, it should be complemented with a corresponding joint congressional committee for purposes of efficient and continued interaction.

The acquisition and evaluation of information specifically for the Congress must be improved. Raw facts and data from ecological and economic studies must be interpreted to be useful in the legislative process. This function should be performed in an organization reporting directly to the Congress; for example, a strong joint committee staff or an expanded Legislative Reference Service environmental unit.

Congress (regardless of present or future executive branch approaches) may exert a meaningful influence on the formulation of national environmental policy by embarking on one or a combination of the following steps:¹

A. A *concurrent resolution* could be introduced declaring the strong interest of the Congress in establishing national environmental policy.

This would represent a firm expression of concern on the part of the Congress about environmental deterioration, but would not be a direct confrontation with the task of defining national policy. The resolution might urge the creation of an appropriate body to investigate all matters relating to environmental management; to analyze the means and methods whereby the organization, administration, and funding of government programs affecting the environment may be improved; and, to determine the ways whereby nongovernmental entities could be encouraged to participate in overcoming further deterioration of the environment in the national interest. Hearings on the resolution could provide a forum for a wide range of opinion.

B. A *joint resolution* calling for an amendment to the Constitution on the subject of environmental values could be introduced.

This would require approval by two-thirds of the Congress and ratification by three-fourths of the States. The amending process is both slow and cumbersome. Moreover, acceptance would require a tremendous groundswell of support. However, a proposed amendment would generate wide discussion and involve the State legislatures which are vitally important in achieving environmental quality goals. The advantage of constitutional amendments lies in the unanimity of national commitment. Such an amendment for the environment could place expanded emphasis on the judicial process as an instrument of controlling future abuse of environmental values.

C. A *joint committee or committees on environmental management* could be established to provide across-the-board oversight on Federal programs, to conduct studies with the assistance of professional staff, and to recommend legislation. Alternatively, select or permanent committees could be established in each House.

Such committees could draw membership from existing legislative committees involved with environmental matters, and perhaps focus primarily on the review of policy and coordination matters dealt with by such groups as the Office of Science and Technology, Water Resources Council, the Council on

¹ This white paper deals with action alternatives for the Congress. Obviously the spectrum of organizational and administrative alternatives for policy in the executive branch is equally important. These range from definition of rights with court defense, to regulation by Federal agency, to standard setting, to incentives for voluntary conformance, to subsidy of technology for restoration and maintenance.

Recreation and Natural Beauty, and various interagency coordinating committees.

D. A new *environmental surveillance unit* to conduct research and information-gathering services for the Congress could be organized.

In the past, Congress has shown reluctance to add new appendages of this sort to the legislative branch. An alternative might be an expansion of the functions of the General Accounting Office to make continuing studies of environmental conflicts and to prepare appropriate reports for transmittal to the Congress. New staff positions and additional funding would be required.

E. The Congress could establish a *non-governmental task force* to carry out in its belief a special study of environmental policy needs.

Such a task force could engage the services of private research organizations and draw its membership from the finest talent available in the academic community. The task force could be administered directly by the Congress or made the responsibility of some arm of the Congress such as the Legislative Reference Service, Library of Congress, which has the authority to employ experts on short-term assignments.

F. A temporary *environment management council* could be organized.

Such a council might be similar in organization and operation to the National Council on Marine Resources and Engineering Development. Its purposes could be to identify all unmet needs and opportunities in the environmental field, to study impediments to sound environmental management, conflicts of interest and gaps in existing agency and congressional activities, and to develop recommendations for legislative action within a specified period of years.

The Congress would retain an overview of the council and would control the budget for its operation. Establishment of a policy planning group in the Executive Office of the President forces the generation of proposals to the Congress. A receiving committee should be set up to correspond to this Council, similar to the Joint Economics Committee and the Council of Economic Advisers.

G. A governmental *commission* could be established for the same purposes.

The commission could be composed entirely of Congressmen, perhaps the chairman of key committees which deal with environmental matters. Or it could be a Joint Commission including representation from the executive branch and the public at large. A third type would be a Presidential Commission with members chosen at the discretion of the Chief Executive. Through a combination of studies and hearings, the Commission could be asked to produce a blueprint for legislative action in the environmental field.

H. The *Legislative Reference Service* could be directed to add a central research and evaluation on environmental matters.

A precedent is the establishment of the Science Policy Research Division in 1964.

I. An *environmental counselor* could be placed on the staff of each appropriate standing committee of the Congress.

The purpose would be to increase the technical staff available for committee work. Each counselor could be given the permanent responsibility of advising the committee to which he was assigned on the probable environmental impact of all pending legislation.

PART III. ELEMENTS OF A NATIONAL POLICY FOR THE ENVIRONMENT

The following language is suggested for a statement of policy, and reflects primarily the proposed position and attitude of the Federal Government, but also could be used for the guidance of State and local governments, private sector industry and commerce, and individual actions. Activities and

relationships which involve man and the physical environment (as contrasted with purely person-to-person or person-to-institution relationships) are the subject of this statement.

It is the policy of the United States that:

Environmental quality and productivity shall be considered in a worldwide context, extending in time from the present to the long-term future.

Purposeful, intelligent management to recognize and accommodate the conflicting uses of the environment shall be a national responsibility.

Information required for systematic management shall be provided in a complete and timely manner.

Education shall develop a basis of individual citizen understanding and appreciation of environmental relationships and participation in decisionmaking on these issues.

Science and technology shall provide management with increased options and capabilities for enhanced productivity and constructive use of the environment.

The requirement to maintain and enhance long-term productivity and quality of the environment takes precedence over local, short-term usage. This policy recognizes the responsibility to future generations of those presently controlling the development of natural resources and the modification of the living landscape. Although the influence of the U.S. policy will be limited outside of its own borders, the global character of ecological relationships must be the guide for domestic activities. Ecological considerations should be infused into all international relations.

World population and food production must be brought into a controlled balance consistent with a long-term future continuation of a satisfactory standard of living for all.

Energy must be allocated equitably between production and the restoration, maintenance, and enhancement of the environment. Research should focus on solar energy and fusion energy for the long term, and on energy conversion processes with minimum environmental degradation for the short term.

In meeting the objectives of environmental management, it will be necessary to seek the constructive compromise, and resolutely preserve future options.

Priorities and choices among alternatives in environmental manipulation must therefore be planned and managed at the highest level of our political system. All levels of government must require developments within their purview to be in harmony with environmental quality objectives.

Alteration and use of the environment must be planned and controlled rather than left to arbitrary decision. Alternatives must be actively generated and widely discussed. Technological development, introduction of new factors affecting the environment, and modifications of the landscape must be planned to maintain the diversity of plants and animals. Furthermore, such activities should proceed only after an ecological analysis and projection of probable effects. Irreversible or difficultly reversible changes should be accepted only after the most thorough study.

The system of free enterprise democracy must integrate long-term public interests with private economic prosperity. A full range of incentives, inducements, and regulations must be used to link the public interests to the marketplace in an equitable and effective manner.

Manufacturing, processing, and use of natural resources must approach the goal of total recycle to minimize waste control and to sustain materials availability. Renewable resources of air and water must be main-

tained and enhanced in quality for continued use.

A broad base of technologic, economic, and ecologic information will be necessary. The benefits of preventing quality and productivity deterioration of the environment are not always measurable in the marketplace. Ways must be found to add to cost-benefit analyses nonquantifiable, subjective values for environmental amenities (which cannot be measured in conventional economic terms).

Wherever the maintenance of environmental productivity or the prevention of environmental deterioration cannot be made economical for the private sector, government must find appropriate means of cost-sharing.

Ecological knowledge (data and theories) must be greatly expanded and organized for use in management decisions. Criteria must be established which relate cause and effect in conditions of the environment.

Indicators for all aspects of environmental productivity and quality must be developed and continuously measured to provide a feedback to management. In particular, the environmental amenities (recreational, esthetic, psychic) must be evaluated. Social sciences must be supported to provide relevant and dependable interpretation of information for environmental management.

Standards of quality must not be absolute—rather, they should be chosen after balancing all criteria against the total demands of society. Standards will vary with locality, must be adjusted from time to time, and we must develop our capabilities accordingly.

Decisions to make new technological applications must include consideration of unintended, unanticipated, and unwanted consequences. Technology should be directed to ameliorating these effects so that the benefits of applied science are retained.

Public awareness of environmental quality relationships to human welfare must be increased. Education at all levels should include an appreciation of mankind's harmony with the environment. A literacy as to environmental matters must be built up in the public mind. The ultimate responsibility for improved maintenance and control of the environment rests with the individual citizen.

APPENDIX—SELECTED ISSUES AND REPRESENTATIVE LEGISLATION INTRODUCED IN THE 90TH CONGRESS

Senate

The bills are grouped as to committee referral. Nineteen committees and over 120 members are represented.

[Bill number and introduced by]

Committee on Agriculture and Forestry

Resource and development projects for fish and wildlife, S. 852, Mr. McCarthy.

Pesticides: Sale and shipment of DDT prohibited, S. 1025, Mr. Nelson.

Federal Pesticide Control Act, S. 2058, Mr. Ribicoff.

Committee on Commerce

Tanker Disaster Act, S. 1586, Mr. Magnuson et al.

Alewife control preventing damage to the ecology, S. 2123, Mr. Nelson.

Endangered Species Act, S. 2984, Mr. Yarborough.

Committee on Finance

Tax treatment of damages for crop injury through pollution, S. 84, Mr. Holland.

Incentive tax credits applicable to air or water pollution control and abatement facilities. Similar bills introduced by Senators Carlson, Cooper, and Ribicoff, S. 187, Mr. Smathers.

Committee on Foreign Relations

Endorsement of International Biological Program, S. Con. Res. 26, Mr. Harris.

Committee on Government Operations

Select Committee on Technology and Human Environment, S. Res. 68, Mr. Muskie.

Full Opportunity and Social Accounting Act; establishment of a Council of Social Advisers, S. 843, Messrs. Mondale, Clark, Hart, Harris, Inouye, Kennedy, McGee, Muskie, Nelson, Proxmire.

Department of Natural Resources Act, S. 886, Mr. Moss.

Committee on Interior and Insular Affairs

National Water Commission, S. 20, Mr. Jackson et al.

Wild Rivers Act: Public lands reserved for National Wild Rivers System, S. 119, Mr. Church.

Nationwide System of Trails, S. 827, Messrs. Jackson and Nelson.

National Mining and Minerals Policy Act, S. 522, Mr. Allott et al.

Land and water conservation fund, S. 1401, Mr. Jackson et al.

National Lakes Preservation Act, S. 2001, Mr. Nelson.

Research program on natural environmental systems of the United States, S. 2789, Mr. Nelson.

Council on Environmental Quality; Investigation of U.S. ecological systems, natural resources, and environmental quality, S. 2805, Messrs. Jackson and Kuchel.

Mined land reclamation, S. 217, Mr. Lausche.

Inventory and study of the Nation's estuaries, S. 2677, Mr. Metcalf.

Committee on Labor and Public Welfare

Annual Presidential report on science and technology; Joint Committee on Science and Technology, S. 1305, Mr. Allott et al.

Federal Council of Health, S. 1347, Mr. Javits.

Safe Drinking Water Act, S. 3147, Mr. Hill.

Committee on Public Works

Air Quality Act of 1967, S. 780, Messrs. Muskie, Baker, Bartlett, Bayh, Bible, Boggs, Brewster, Clark, Cooper, Fong, Gruening, Hartke, Inouye, Long (Mo.), Mansfield, Metcalf, Mondale, Montoya, Morse, Murphy, Nelson, Randolph, Ribicoff, Spong, Tydings, Yarborough, Young (Ohio).

Federal Water Pollution Control Act amplified by: Industrial Air Pollution Abatement and Prevention Act, Navigable Waters Pollution Control Act, S. 847, S. 2410, S. 849, Mr. Nelson.

Clean Lakes Act, S. 1341, Mr. Mondale et al.

Highway Beautification Act amendment, S. 1666, Mr. Cooper.

Acid mine pollution control, S. 1870, Messrs. Randolph, Clark.

Improved control of pollution from vessels, S. 2525, Mr. Muskie et al.

R. & D. program by Department of Interior for improved control and prevention of pollution, S. 2760, Mr. Muskie et al.

Regional water pollution control advisory boards, S. 2820, Mr. Tower.

Environmental Quality Prevention Act, Council on Environmental Quality, S. 3031, Mr. Nelson.

Extension of Federal assistance for solid waste disposal planning, S. 3201, Mr. Muskie et al.

House

Committee on Agriculture

[Bill number and introduced by]

Federal Pesticide Control Act, H.R. 11846, Mr. Dingell.

Control of noxious plants on federally controlled land, H.R. 14158, Mr. Foley.

Committee on Banking and Currency

Federal development grants for open space land, H.R. 5865, Mr. O'Hara.

Committee on Government Operations

Consolidation of water quality management and pollution control authorities in Department of the Interior, H.R. 3753, Mr. Dingell, H.R. 4893, Mr. Moss.

Establishment of Department of Marine and Atmospheric Affairs, H.R. 4480, Mr. Hathaway.

Uniform land acquisition policy in urban areas, H.R. 5523, Mr. Dwyer.

Council of Social Advisers, H.R. 10261, Mr. Ottinger.

National Commission on Urban Living, H.R. 12494, Mr. Goodell.

Establishment of Department of Health, H.R. 15641, Mr. Rosenthal.

Committee on Interior and Insular Affairs

National scenic river system, H.R. 90, Mr. Saylor.

Investigation of the natural environmental systems in the United States by Department of the Interior, H.R. 258, Mr. Bennett.

Fresh water supply for the Northeastern United States, H.R. 1022, Mr. Ottinger.

Public Land Law Review Commission, H.R. 12121, Mr. Aspinall.

National Study Commission Act, H.R. 1416, Mr. Ullman.

National Study Commission on Water Conservation and Utilization, H.R. 5020, Mr. Wyatt.

Review of Nation's water resource problems, H.R. 6800, Mr. Helstoski.

Land and water conservation fund, H.R. 8578, Mr. Foley.

Wild and Scenic Rivers Act, Similar bill: H.R. 15429 (Mr. Fulton of Tennessee), H.R. 15690, Mr. Fraser.

Nationwide trials system, H.R. 4865, Mr. Taylor.

Committee on Interstate and Foreign Commerce

Pesticides; standards, H.R. 495, Mr. Dingell.

HUD study of potential damage to environment from erection of overhead electric transmission lines and towers, H.R. 4150, Mr. Ottinger.

Air Quality Act of 1967: The act incorporates provisions which appear as sections of numerous other bills. Some Members who authored similar bills are: Messrs. Horton, Halpern, Springer, Dingell, Adams, Eckhardt, Minish, Ryan, Long of Maryland, McCarthy, Moorhead, Rosenthal, Adams, Dent, Farbstain, Delaney, Gilbert, Murphy, Van Deerlin,

Walker, Mrs. Kelly, Messrs. Johnson of Pennsylvania, Patten, Howard, Corman, Helstoski, Tunney, Eilberg, Fino, Pucinski, Roybal, H.R. 4279, Mr. Staggers.

Establishes regional airshed quality commissions and airshed quality regions, H.R. 8601, Mr. Blatnik.

Prohibits construction of power transmission lines on interior-designated public lands, H.R. 11509, Mr. Reuss.

Control and abatement of aircraft noise, H.R. 14896, Mr. Scheuer.

Solid wastes: extend and amend Public Health Service Act, H.R. 15768, Mr. Staggers.

Committee on the Judiciary

Conservation bill of rights, H.J. Res. 1321, Mr. Ottinger.

Marine Resources Conservation and Development Act, H.R. 17369, Mr. Willis.

Committee on Merchant Marine and Fisheries

Development and preservation of U.S. estuarine areas, H.R. 25, Mr. Dingell.

Navigable Water Pollution Control Act, H.R. 486, Mr. Dingell.

Protection of fish and wildlife resources from effects of Federal projects, H.R. 6731, Mr. Ottinger.

Coast Guard R. & D. related to release of harmful fluids from vessels, H.R. 9116, Mr. Howard.

Establishment of Marine Sanctuaries, H.R. 11584, Mr. Keith.

Congressional policy concerning authority to control fish and wildlife resources, H.R. 14849, Mr. Vander Jagt.

Endangered Species Act, H.R. 11618, Mr. Lennon.

Coast Guard studies of oil pollution, H.R. 14852, Mr. Keith.

Prevention of damage to fish and wildlife from pesticides, H.R. 15979, Mr. Karth.

Environmental Science Services Administration Commissioned Officers Corps Act, H.R. 17993, Mr. Garmatz.

Committee on Public Works

Federal Water Commission Act, H.R. 1252, Mr. Ryan.

Detergent Pollution Control Act, H.R. 8752, Mr. Eilberg.

Department of Interior's R. & D. program

to improve the quality of lake waters, H.R. 10751, Mr. Hanley.

Federal highway system beautification, H.R. 11705, Mr. Adams.

Clean Lakes Act, H.R. 13407, Mr. Zwach.

Control of acid and mine water pollution; similar bill introduced by Mr. Bevil (H.R. 16133), H.R. 14000, Mr. Nedzi.

Oil and Hazardous Substance Pollution Control Act, H.R. 15906, Messrs. Fallon, Blatnik.

Water pollution control, Federal installations, prevention of discharge of heated effluents, H.R. 16852, Mr. Dingell.

Committee on Rules

Joint congressional committee to study problems of extraordinary pollution of air and navigable waters in the United States, H. Con. Res. 307, Mr. St. Onge.

House Standing Committee on Urban Affairs, H. Res. 1062, Mr. Cowger.

Select Committee on Technology and Human Environment, H. Res. 1116, Mr. Brown of California.

Committee on Science and Astronautics

Congressional support of international biological program, H. Con. Res. 6698, Mr. Miller of California.

Technology Assessment Board and General Advisory Council, H.R. 6698, Mr. Daddario.

Council on Environmental Quality, H.R. 7796, Mr. Dingell.

Council of Ecological Advisers, H.R. 13211, Mr. Tunney.

Council of Ecological Advisers, H.R. 14605, Mr. Matsunaga.

Council of Ecological Advisers, H.R. 14627, Mr. Corman.

Committee on Ways and Means

Incentive tax credit for construction of air or water pollution control facilities; similar bills presented by Messrs. Collier, Corbett, Felghan, Casey, Fuqua, Anderson, Perkins, Slack, Byrne, Reifel, Berry, King, Johnson of Pennsylvania, McClory, Zion, Whalley, Schweiker, Halpern, Schneebeli, Andrews, Steiger, Cederberg, Kupferman, Keith, Hall, MacGregor, Mize, Meskill, Smith of New York, Teague, H.R. 385, Mr. Clancy.

Clean Lakes Act, H.R. 16257, Mr. Blackburn.

COMPARISON OF ENVIRONMENTAL QUALITY MEASURES

| PROVISION | S. 1075 | H.R. 12549 (S. 1075 AS AMENDED) |
|--|--|--|
| Title. | National Environmental Policy Act of 1969. | An Act to provide for the establishment of a Council on Environmental Quality. |
| Declaration of policy. | 6-part Congressional declaration of policy (sec. 101(a)). | Brief statement of policy. |
| Recognition of environmental rights. | Congress recognizes right of persons to healthful environment (sec. 101(b)). | No provision. |
| Directions to Federal agencies as follows: | Congress authorizes and directs all Federal agencies to perform functions and make certain findings in support of the policy (sec. 102). | No provision (Council to make recommendations). |
| 1. Interdisciplinary approach. | All agencies shall: 1. Utilize interdisciplinary approach to planning and decision-making (sec. 102(a)). | No provision. |
| 2. Environmental values. | 2. Develop methods to include presently unquantified values in decisions (sec. 102(b)). | No provision. |
| 3. Make findings. | 3. Must make findings in connection with proposals and decisions that: | No provision. |
| a. environmental impact. | a. environmental impact has been considered. | |
| b. adverse effects. | b. adverse effects are justified. | |
| c. short-term uses. | c. short-term uses are consistent with long-term productivity. | |
| d. irreversible commitments. | d. irreversible commitments are justified. | |
| 4. Alternatives. | 4. Study and present alternatives where conflicts occur. | No provision. |
| 5. International effects. | 5. Support international programs for the environment. | No provision. |
| 6. Present authority. | 6. Review existing statutory authorities and recommend legislation to conform to this Act. | No provision. |

PROVISION

S. 1075

H.R. 12549

(S. 1075 AS AMENDED)

Supplement to existing enabling acts.

Data collection and dissemination.

Grant Program.

Project inventory.

Ecological research.

Assistance to states.

Deputy Director for Office of Science and Technology.

Board of Environmental Quality Advisors (Council, Office).

Duties of Board, Office, Council.

1. Annual report to President.
2. Assist President.
3. Collect data.
4. Review Federal activities.
5. Assist in President's report to Congress.
6. Other assignments.
7. Support Cabinet Council.
8. Review monitoring system.
9. Promote knowledge.
10. Develop policies.
11. Recommend priorities.
12. Evaluate techniques.
13. Coordinate programs.
14. Review criteria.
15. Consult with state and local government.

Annual Report to Congress.

Employment of Officers.

Appropriations.

Biennial Forum.

Advisory Committees.

Act is made supplementary to existing mandates and authorizations of Federal agencies (sec. 103).

Federal agencies are authorized to collect and disseminate environmental and ecological data (sec. 201).

The President is authorized to designate agencies to:

1. administer a grant program (sec. 202(a)(1)).
2. inventory resource projects (sec. 202(a)(2)).
3. collect ecological research data (sec. 202(a)(3)).
4. assist state (sec. 202(a)(4)).

Establishes new Deputy Director in OST (sec. 203).

Creates a 3-man Board in the Executive Office of the President. Appointed by President with advice and consent of Senate (sec. 301).

1. Make annual report to the President (302(a)(1)).
 2. Advise, assist, and support President (302(a)(2)).
 3. Collect and disseminate information on environmental quality (sec. 302(a)(3)).
 4. Review, appraise and make recommendations concerning Federal programs, projects, activities, and policies (sec. 302(b)).
 5. Assist President in preparation of annual report on the environment (sec. 302(c)).
 6. Other duties directed by President (sec. 302(d)).
 7. All Federal agencies (sec. 201(g)).
 8. President designates agency (sec. 202(a)(3)).
 9. All Federal agencies (sec. 201(a)).
 10. Board to assist President (sec. 302(a)(2)).
 11. No provision.
 12. All agencies (sec. 102(b)).
 13. Board reviews programs (sec. 302(b)).
 14. Board reviews policies (sec. 302(b)).
 15. All agencies advise states, counties, etc. (sec. 201(d)).
- President shall submit report to Congress (sec. 303).
- Board may employ (sec. 304).
- For grant programs, \$500,000 first year, \$1 million each successive year (sec. 202(b)).
- For Board—\$1 million annually (sec. 305).
- No provision.
- No provision.

Nothing in act shall change existing authorities (sec. 9).

No provision.

No provision.

No provision.

No provision.

No provisions (Council will consult, sec. 7(a)).

No provisions.

Creates a Council of Environmental Quality in Executive Office of President. Composed of 5 members appointed by President (sec. 3).

1. Make annual report to President (sec. 6).
 2. Prepare reports as President directs (sec. 5(e)).
 3. Gather data and prepare reports (sec. 5(b)).
 4. Appraise programs and activities (sec. 5(c)).
 5. Assist and advise President in preparing annual report (sec. 5(a)).
 6. Make such studies as requested (sec. 5(e)).
 7. No provision.
 8. No provision.
 9. No provision.
 10. Develop and recommend policies (sec. 5(d)).
 11. No provision.
 12. No provision.
 13. No provision.
 14. No provision.
 15. Consult with state, local and private groups (sec. 7(a)).
- President shall transmit to the Congress (sec. 2).
- Council may employ (sec. 4).
- \$300,000 for first year, \$500,000 for second year, \$1 million annually thereafter (sec. 10).
- No provision.
- No provision.

SECTION-BY-SECTION ANALYSIS

Section 1

This section provides that this act may be cited as the National Environmental Policy Act of 1969.

Section 2

This section sets forth the purposes of the act. The purposes of the act are to declare a national environmental policy; to promote efforts to prevent environmental damage and to better the health and welfare of man; to enlarge and enrich man's understanding of the ecological systems and natural resources important to the Nation; and to establish in the Executive Offices of the President a Board of Environmental Quality Advisers.

TITLE 1

Section 101(a)

This section is a declaration by the Congress of a national environmental policy. The declaration is based upon a congressional recognition of mankind's dependence upon his physical and biological surroundings for material goods and cultural enrichment. It is further based upon a recognition of the increasing pressures exerted upon the environment as a result of population growth,

urbanization, industrial expansion, resource exploitation, and technological development.

The continuing policy and responsibility of the Federal Government is declared to be that, consistent with other essential considerations of national policy, the activities and resources of the Federal Government shall be improved and coordinated to the end that the Nation may attain certain broad national goals in the management of the environment. The broad national goals are as follows:

(1) Fulfill the responsibilities of each generation as trustee of the environment for future generations. It is recognized in this statement that each generation has a responsibility to improve, enhance, and maintain the quality of the environment to the greatest extent possible for the continued benefit of future generations.

(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings. The Federal Government, in its planning and programs, shall strive to protect and improve the quality of each citizen's surroundings both in regard to the preservation of the natural environment as well as in the planning, design, and construction of manmade structures. Each indi-

vidual should be assured of safe, healthful, and productive surroundings in which to live and work and should be afforded the maximum possible opportunity to derive physical, esthetic, and cultural satisfaction from his environs.

(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences. The resources of the United States must be capable of supporting the larger populations and the increased demands upon limited resources which are inevitable in the future. To do so, it is essential that the widest and most efficient use of the environment be made to provide both the necessities and the amenities of life. In seeking intensified beneficial utilization of the earth's resources, the Federal Government must take to avoid degradation and misuse of resources, risk to man's continued health and safety, and other undesirable and unintended consequences.

(4) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible an environment which supports diversity and variety

of individual choice. The pace of urbanization coupled with population growth and man's increasing ability to work unprecedented change in the natural environment makes it clear that one essential goal in a national environmental policy is the preservation of important aspects of our national heritage. There are existing programs which are designed to achieve these goals, but many are single-purpose in nature and most are viewed as being within the province of a particular agency of Government. This subsection would make it clear that all agencies, in all of their activities, are to carry out their programs with a full appreciation of the importance of maintaining important aspects of our national heritage.

This subsection also emphasizes that an important aspect of national environmental policy is the maintenance of physical surroundings which provide present and future generations of American people with the widest possible opportunities for diversity and variety of experience and choice in cultural pursuits, in recreational endeavors, in esthetics and in living styles.

(5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities. This subsection recognizes that population increases underlie many of the resource and environmental problems which are being experienced in America. If the Nation's present high standards of living are to be made available to all of our citizens and if the general and growing desire of our people for greater participation in the physical and material benefits, in the amenities, and in the esthetic enjoyment afforded by a quality environment are to be satisfied, the Federal Government must strive to maintain magnitude and distribution of population which will not exceed the environment's capability to provide such benefits.

(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. In recent years a great deal of the emphasis of legislative and executive action regarding environmental matters has concentrated upon the protection and improvement of quality of the Nation's renewable resources such as air and water. It is vital that these efforts be continued and intensified because they are among the most visible, pressing, and immediate concerns of environmental management.

It is also essential that means be sought and utilized to improve the effectiveness of recycling of depletable resources such as fiber, chemicals, and metallic minerals. Improved material standards of living for greater numbers of people will place increased demands upon limited raw materials. Furthermore, the disposal of wastes from the nonconsumptive single use of manufactured goods is among our most critical pollution problems. Emphasis must be placed upon seeking innovative solutions through technology, management, and, if necessary, governmental regulation.

Section 101(b)

This subsection asserts congressional recognition of each person's fundamental and inalienable right to a healthful environment. It is apparent that the guarantee of the continued enjoyment of any individual right is dependent upon individual health and safety. It is further apparent that deprivation of an individual's right to a healthful environment will result in the degradation or elimination of all of his rights.

The subsection also asserts congressional recognition of each individual's responsibility to contribute to the preservation and enhancement of the environment. The enjoyment of individual rights requires respect and protection of the rights of others. The cumulative influence of each individual

upon the environment is of such great significance that every effort to preserve environmental quality must depend upon the strong support and participation of the public.

Section 102

The policies and goals set forth in section 101 can be implemented if they are incorporated into the ongoing activities of the Federal Government in carrying out its other responsibilities to the public. In many areas of Federal action there is no body of experience or precedent for substantial and consistent consideration of environmental factors in decisionmaking. In some areas of Federal activity, existing legislation does not provide clear authority for the consideration of environmental factors which conflict with other objectives.

To remedy present shortcomings in the legislative foundation of existing programs, and to establish action-forcing procedures which will help to insure that the policies enunciated in section 101 are implemented, section 102 authorizes and directs that the existing body of Federal law, regulation, and policy be interpreted and administered to the fullest extent possible in accordance with the policies set forth in this act. It further establishes a number of operating procedures to be followed by all Federal agencies as follows:

(a) Wherever planning is done or decisions are made which may have an impact on the quality of man's environment, the responsible agency or agencies are directed to utilize to the fullest extent possible a systematic, interdisciplinary, team approach. Such planning and decisions should draw upon the broadest possible range of social and natural scientific knowledge and design arts. Many of the environmental controversies of recent years have, in large measure, been caused by the failure to consider all relevant points of view in the planning and conduct of Federal activities. Using an interdisciplinary approach that brought together the skills of the landscape architect, the engineer, the ecologist, the economist, and other relevant disciplines would result in better planning and better projects. Too often planning is the exclusive province of the engineer and cost analyst.

(b) All agencies which undertake activities relating to environmental values, particularly those values relating to amenities and aesthetic considerations are authorized and directed to make efforts to develop methods and procedures to incorporate those values in official planning and decision-making. In the past, environmental factors have frequently been ignored and omitted from consideration in the early stages of planning because of the difficulty of evaluating them in comparison with economic and technical factors. As a result, unless the results of planning are radically revised at the policy level—and this often means the Congress—environmental enhancement opportunities may be forgone and unnecessary degradation incurred. A vital requisite of environmental management is the development of adequate methodology for evaluating the full environmental impacts and the full costs of Federal actions.

(c) Each agency which proposes any major actions, such as project proposals, proposals for new legislation, regulations, policy statements, or expansion or revision of ongoing programs, shall make a determination as to whether the proposal would have a significant effect upon the quality of the human environment. If the proposal is considered to have such an effect, then the recommendation or report supporting the proposal must include statements by the responsible official of certain findings as follows:

(1) A finding shall be made that the environmental impact of the proposed action has been studied and that the results of

the studies have been given consideration in the decisions leading to the proposal.

(ii) Wherever adverse environmental effects are found to be involved, a finding must be made that those effects cannot be avoided by following reasonable alternatives which will achieve the intended purposes of the proposal. Furthermore, a finding must be made that the action leading to the adverse environmental effects is justified by other considerations of national policy and those other considerations must be stated in the finding.

(iii) Wherever local, short-term uses of the resources of man's environment are being proposed, a finding must be made that such uses are consistent with the maintenance and enhancement of the long-term productivity of the environment.

(iv) Wherever proposals involve significant commitments of resources and those commitments are irreversible and irretrievable under conditions of known technology and reasonable economics, a finding must be made that such commitments are warranted.

(d) Wherever agencies of the Federal Government recommend courses of action which are known to involve unresolved conflicts over competing and incompatible uses of land, water, or air resources, it shall be the agency's responsibility to study, develop, and describe appropriate alternatives to the recommended course of action. The agency shall develop information and provide descriptions of the alternatives in adequate detail for subsequent reviewers and decisionmakers, both within the executive branch and in the Congress, to consider the alternatives along with the principal recommendation.

(e) In recognition of the fact that environmental problems are not confined by political boundaries, all agencies of the Federal Government which have international responsibilities are authorized and directed to lend support to appropriate international efforts to anticipate and prevent a decline in the quality of the worldwide environment.

(f) All agencies of the Federal Government are directed to review their existing statutory authority, administrative regulations, policies, and procedures. The agencies are to propose to the President and to the Congress new executive legislative authority which they find to be necessary to make their authority consistent with the provisions and purposes of this act.

The committee expects that each agency will diligently pursue this review and that appropriate legislative recommendations will be prepared for presentation to the Congress within 1 year's time. The committee recognizes, however, that there is a wide difference in the complexity of legislation dealing with the activities of the various executive agencies and that a specific deadline might prove unreasonably burdensome on some agencies.

Section 103

This section provides that the policies and goals set forth in this act are supplementary to the existing mandates and authorizations of Federal agencies. They are not considered to repeal the existing authorizations. Where conflicts occur, they will be resolved under the procedure prescribed in section 102(f).

Section 201

This section provides authorization for the Federal agencies to include, as a part of their existing programs and their ongoing activities, certain environmental management functions which will be necessary to support the policies established by this act. No specific authorization of appropriations is provided for these activities. The committee believes that the agencies can perform the functions authorized as a part of the general administration and operation of their existing programs. To the extent that agencies are pursuing activities with environmental management implications, the costs of the functions authorized in this section are

appropriate costs of their work. The functions authorized for each Federal agency are as follows:

(a) To conduct investigations and research relating to ecological systems and environmental quality. It is intended that such activities will be undertaken by each agency when its activities would have an adverse impact on an ecological system or on the quality of the environment.

(b) To collect and document information relating to changes or trends in environmental conditions including ecological systems. It is intended that each agency perform this function in its area of expertise and operation.

(c) To evaluate and publish environmental and ecological data which it has collected.

(d) To make available advice and information at its disposal relating to environmental management.

(e) To utilize ecological information in the planning and development of resource-oriented projects. Each agency which studies, proposes, constructs, or operates projects having resource management implications is authorized and directed to consider the effects upon ecological systems to be a part of the analyses governing its actions and to study such effects as a part of its data collection.

(f) To conduct ecological research and studies within the Federal lands under its jurisdiction.

(g) To assist to the fullest extent possible the Board of Environmental Quality Advisers established by this act and any environmental council or committees established by the President.

Section 202(a)

This section authorizes the President to designate an agency or agencies to carry out the following functions regarding environmental management:

(1) Administer a program of grants, contracts and cooperative agreements, training and research to further the programs of ecological study authorized by title II and to accept and utilize donations for this purpose.

(2) Develop and maintain an inventory of Federal projects and programs, existing and contemplated, which have made or will make significant modifications in the environment.

(3) Establish an information collection and retrieval system for ecological research materials.

(4) Assist and advise State and local governments and private enterprise in developing policies and procedures to enhance the quality of the environment.

Section 202(b)

Appropriations in the amounts of \$500,000 annually for fiscal years 1971 and 1972 and \$1 million annually for 1973 and each fiscal year thereafter are authorized for the purposes of this section. The funds appropriated would be allotted to the designated agencies as the President recommends.

Section 203

This section establishes in the Office of Science and Technology an additional Deputy Director to be compensated at the rate provided for level IV of the executive schedule pay rates.

The Office of Science and Technology (OST) was established by Reorganization Plan No. 2 of 1962 to provide a permanent staff in the Executive Office of the President to advise and assist the President on matters pertaining to or affected by science and technology. It is also directed to take on such other assignments as the President may request. The Director of OST, appointed by the President with the advice and consent of the Senate, also serves as the science adviser to the President.

Since it was provided statutory authority in 1962, the OST has broadened the range and scope of its activities extending beyond

the province of research or policy for science and technology to the interrelations of science to broad national policies and programs. In this sense, the OST is concerned with assuring the most effective and beneficial use of technology in our society.

Thus, the OST deals with broad problems facing the country in health, education, the urban environment, energy, policy and environmental quality.

The President's recent Executive order establishing an Environmental Quality Council directed the OST to provide the staff support and assistance to the work of the Council. The President's science adviser was named Executive Secretary of the Council.

In view of the importance of environmental management problems and the important role which the President's Council will have in resolving interagency conflict concerning environmental issues, and in coordinating the ongoing environmental programs of the Federal Government, a significant increase is expected in the already demanding work load of the OST.

The committee feels that the addition of a second Deputy Director as recommended by the Bureau of the Budget in its July 7, 1969, letter to the chairman, will be of great value in strengthening OST's capacity to contribute to effective environmental management.

TITLE III

Section 301(a)

This subsection creates in the Executive Office of the President a Board of Environmental Quality Advisers. The Board is to be composed of three members appointed by the President with the advice and consent of the Senate and who shall serve at the President's pleasure.

It is intended that the members of the Board shall be persons of broad experience and training with the competence and judgment to analyze and interpret trends and developing problems in the quality of the Nation's environment. The committee does not view the Board's functions as a purely scientific pursuit, but rather as one which rests upon scientific, economic, social, esthetic, and cultural considerations. The members of the Board, therefore, should not necessarily be selected for depth of training or expertise in any specific discipline, but rather for their ability to grasp broad national issues, to render public service in the national interest, and to appreciate the significance of choosing among present alternatives in shaping the country's future environment.

The President shall designate one member of the Board as Chairman and one as Vice Chairman.

Section 301(b)

This subsection provides that the members of the Board shall serve full time. The compensation for the Chairman of the Board is set at level II of the Executive Schedule pay rates and at level IV for the other two members. These provisions parallel the compensation provisions established by law for the Chairman and the members of the Council of Economic Advisers.

Section 302(a)

The primary function of the Board shall be to carry on continuing studies and analyses related to the status of the environment. The Board will seek to establish or cause to be established within the operating agencies of the Federal Government an effective system for monitoring environmental indicators, collecting data, and analyzing trends. It will further seek to relate trends in environmental conditions to short- and long-term national goals and aspirations.

In carrying out this function, the Board is required to perform a number of specified duties.

First, the Board is required to report at least once each year to the President on the state and condition of the environment.

This report should represent the Board's considered and impartial judgment. The Board's report would be useful to the President in the preparation of the annual environmental quality report which the President is required to transmit to the Congress by section 303.

Second, the Board would provide advice, assistance, and staff support to the President in the formulation of national policies designed to foster and promote the improvement of the quality of the environment. The President is, of course, free to utilize the services of the Board in any manner in which he desires. The committee hopes, however, that the President would rely on the Board's impartial and objective advice in the formulation of national environmental policies.

Third, the Board is authorized to obtain information from all existing sources concerning the quality of the environment. The committee intends and fully expects that all Federal agencies will cooperate and provide any assistance and information necessary to enable the Board to fulfill its duties and responsibilities under this act. The Board is also directed to make information concerning the quality of the environment available to the American people. It is the committee's strong view that there needs to be some one place in Government to which the public and the news media may turn for authoritative and objective information on particular environmental problems. A current example of the need relates to the controversy over the impact of certain chemicals, pesticides, and insecticides. Many news reports and the opinions of many competent scientists indicate that some present practices in the use and application of these substances pose grave health dangers. The extent of the danger, however, is often minimized and, in some cases, even denied by the responsible Government agencies. The Board could provide a useful and needed public function by reviewing all of the facts and furnishing competent judgment and advice on problems of this nature.

Section 302(b)

This subsection provides that the Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment. Based upon its review, the Board shall make recommendations to the President.

The committee does not view this direction to the Board as implying a project-by-project review and commentary on Federal programs. Rather, it is intended that the Board will periodically examine the general direction and impact of Federal programs in relation to environmental trends and problems and recommend general changes in direction or supplementation of such programs when they appear to be appropriate.

It is not the committee's intent that the Board be involved in the day-o-day decision-making processes of the Federal Government or that it be involved in the resolution of particular conflicts between agencies and departments. These functions can best be performed by the Bureau of the Budget, the President's interagency Cabinet-level Council on the Environment or by the President himself. The committee does, however, strongly feel that the President needs impartial and objective staff support which can provide him with unbiased information and an accurate overview of the Nation's environmental trends and problems and how these trends and problems affect the future material and social well-being of the American people.

The Board's recommendations to the President are for his use alone, and his actions on their recommendations will depend on the confidence he places in the judgment of the persons he nominates to membership on the Board. Used properly, the Board's review and appraisal of Federal

activities which affect the quality of the environment can add a new dimension and provide the President with a new insight into the long-range needs and priorities of the country. At the present time, the executive agencies' view of National needs, goals, and priorities in the field of environmental management appears to have been so thoroughly subjugated to budgetary and fiscal considerations that the nature of the fundamental values at stake has been obscured. It is the committee's view that the values which are at stake in the environmental management decisions which lie ahead need to be brought to the fore and made the subject of official decision at the highest levels of Government.

Section 302(c)

This subsection states that the Board will assist the President in the preparation of the annual environmental quality report required by section 303. The committee assumes that the Board would have the primary responsibility for the preparation of the President's annual report. It could, in large measure, be based upon the Board's report to the President required by section 302(a) (1).

Section 302(d)

This section provides that both the Board of Environmental Quality Advisers and the Office of Science and Technology shall carry out their duties under the provisions of this act at the direction of the President. This provision was not a part of S. 1075 as introduced, but was added as a committee amendment to make it clear that the duties and functions assigned to the Board and the Office of Science and Technology are to be carried out at the direction of the President as is true with regard to the other offices and bodies in the Executive office of the President. This provision will avoid any problems of duplication, coordination, and overlap which otherwise might subsequently arise between the activities of the Board and those of other offices or agencies.

The committee feels that this provision will enlarge the President's flexibility in organizing his staff and will enhance the overall policy-making capacity of the Executive office.

Section 303

This section provides that the President shall transmit to the Congress an annual environmental quality report. The first such report shall be transmitted on or before June 30, 1970. Subsequent reports shall be transmitted on or before June 30 in succeeding years.

The report is to include, but not be limited to, a current evaluation of the status and condition of the major environmental classes of the Nation. To the greatest extent possible, this information should be based upon measurements of environmental indicators relating quality and supply of land, water, air, and depletable resources to other factors such as environmental health, population distribution, and demands upon the environment for amenities such as outdoor recreation and wilderness. Significant current and developing environmental problems should be highlighted. Current and foreseeable environmental trends and evaluations of the effects of those trends upon the Nation's future social, economic, physical, and other requirements should be discussed.

It is the committee's strong view that the President's annual report should provide a considered statement of national environmental objectives, trends and problems. The report should provide the best judgment of the best people available on the Nation's environmental problems and the progress being made toward providing a quality environment for all Americans.

The report should summarize and bring together the major conclusions of the technical reports of other Federal agencies con-

cerned with environmental management. Too often, these reports go unread and unevaluated. A succinct, readable summary and evaluation would be of great assistance to the Congress and the President.

It is anticipated that the annual report and the recommendations made by the President would be the vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress. It would also appear to be desirable to hear the views of the Board of Environmental Quality Advisers at an annual session similar to that now conducted by the Joint Economic Committee with the Council of Economic Advisers.

Section 304

This section provides that the Board may employ a professional and support staff and may acquire the services of experts and consultants. The committee intends that the Board should have available a professional staff comparable in size and qualifications to the staff which currently services the Council of Economic Advisers. The staff members, like the members of the Board, should represent many disciplines and professions. They should be broad-gaged people who are capable of furnishing the Board with a balanced and knowledgeable overview of the state of the Nation's environment.

Section 305

This section authorizes appropriations in the amount of \$1 million annually to cover the salaries and operating expenses of the Board. The committee chose the \$1 million ceiling because it is comparable to the appropriations which have been required over the past several years for the Council of Economic Advisers.

Mr. JACKSON. Mr. President, the substance of these two initial titles of the Senate version of S. 1075 is not included in the House version. There are, in addition, a number of differences between title III of the Senate version, establishing a Board of Environmental Quality Advisers and calling for an annual environmental quality report to the Congress, and the similar House provisions.

Titles I and II of the Senate version perform two functions which are essential for the realization of a sound national environmental policy. The first of these functions is the statement of policies and broad goals to guide Federal decisionmakers. The statement will represent the first comprehensive enunciation of national concern for environmental quality.

The second function is the provision of authority and direction which will permit the policies set forth in the act to become a real working part of all the activities of all Federal agencies and programs.

There are about 80 major Federal agencies with programs underway which affect the quality of the human environment. If an environmental policy is to become more than rhetoric, and if the studies and advice of any high-level, advisory group are to be translated into action, each of these agencies must be enabled and directed to participate in active and objective-oriented environmental management. Concern for environmental quality must be made part of every phase of Federal action.

Mr. President, following my motion to disagree to the amendments of the House to S. 1075 and agree to the conference requested by the House, a motion will be offered that the conferees on

S. 1075 be instructed to insist upon the specific provisions of S. 1075, as modified by the agreed-upon proposed amendments that have been discussed in the debate and which will be set forth in the RECORD.

This procedure has been discussed by members of both committees, and while it is unusual, it has been accepted as a means which will insure that the Congress will have an opportunity to act on the conference report on S. 1075.

It is understood that the Senate conferees will make every possible effort to gain House agreement to the text of S. 1075 as passed by the Senate as well as the amendments discussed today and set forth in the RECORD. It is also understood, however, that the purpose of a conference committee is to compromise and adjust differences between the House and Senate passed bills, and that the final product of the conference committee will probably have to involve some changes in the language of both the House and Senate passed bills on S. 1075. It is, however, the hope and the intent of all concerned on the Senate side that these changes will not in any way affect the substance of what has been agreed upon.

In any event, any proposed changes from the agreed-upon text of S. 1075 will be discussed in advance by all of the parties involved.

Mr. MUSKIE. Mr. President, the statement just made by the distinguished Senator from Washington represents the agreement which we have reached.

Mr. JACKSON. Mr. President, I move that the Senate disagree to the amendments of the House of Representatives and agree to the request for a conference, and that the Chair be authorized to appoint the conferees on the part of the Senate.

The motion was agreed to.

Mr. JACKSON. Mr. President, before the Chair names conferees on the part of the Senate, I move that the conferees on S. 1075 be instructed to insist upon the specific provisions of S. 1075, as modified by the agreed-upon proposed amendments that have been discussed in the debate and specifically set forth as follows:

S. 1075

A bill to authorize the Secretary of the Interior to conduct investigations, studies, surveys, and research relating to the Nation's ecological systems, natural resources, and environmental quality, and to establish a Council on Environmental Quality

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION 1. That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Board of Environmental Quality Advisers.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing that man depends on his biological and physical surroundings for food, shelter, and other needs, and for cultural enrichment as well; and recognizing further the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances on our physical and biological surroundings and on the quality of life available to the American people; hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve importance historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(b) The Congress recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that the policies, regulations, and public laws of the United States, to the fullest extent possible, be interpreted and administered in accordance with the policies set forth in this Act, and that all agencies of the Federal Government—

(a) utilize to the fullest extent possible a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(b) identify and develop methods and procedures, subject to review and approval of the Board of Environmental Quality Advisors established by Title III of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations;

(c) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action;

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented;

(iii) alternatives to the proposed action;

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and

(v) any irreversible commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any established agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, including those authorized to develop and enforce environmental standards, shall be made available to the President, the Board of Environmental Advisors and to the public as provided by 5 USC 552 and shall accompany the proposal through the existing agency review processes.

(d) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(e) recognize the worldwide and long-range character of environmental problems and lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment; and

(f) review present statutory authority, administrative regulations, and current policies and procedures for conformity to the purposes and provisions of this Act and propose to the President such measures as may be necessary to make their authority consistent with this Act.

SEC. 103. Nothing in Sec. 102 shall in any way affect the specific statutory obligations of any Federal agency (a) to comply with criteria or standards of environmental quality, (b) to coordinate or consult with any other Federal or State agency, or (c) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

SEC. 104. The policies and goals set forth in this Act are supplementary to existing authorizations of Federal agencies.

TITLE II

SEC. 201. To carry out the purposes of this Act, the Board of Environmental Quality Advisors is hereby authorized—

(a) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality to the extent that such activities do not overlap or conflict with similar activities authorized by law and performed by established agencies;

(b) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes; and

(c) to evaluate and disseminate information of an ecological nature to public and private agencies or organizations, or individuals in the form of reports, publications, atlases, and maps.

SEC. 202. To carry out the purposes of this Act, all agencies of the Federal Government in conjunction with their existing programs and authorities, are hereby authorized—

(a) to make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining and enhancing the quality of the environment;

(b) to initiate and utilize ecological information in the planning and development of resource-oriented projects;

(c) to conduct research and studies within natural areas under Federal ownership which are under the jurisdiction of the Federal agencies; and

(d) to assist the Board of Environmental Quality Advisors established under title III of this Act and any council or committee established by the President to deal with environmental problems.

SEC. 203. There is hereby established in the Office of Science and Technology an additional office with the title "Deputy Director of the Office of Science and Technology." The Deputy Director shall be appointed by the President by and with the advice and consent of the Senate, shall perform such duties as the Director of the Office of Science and Technology shall from time to time direct, and shall be compensated at the rate provided for level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

TITLE III

SEC. 301. (a) There is created in the Executive Office of the President a Board of Environmental Quality Advisors (hereinafter referred to as the "Board"). The Board shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. Each member shall, as a result of training, experience, or attainments, be professionally qualified to analyze and interpret environmental trends of all kinds and descriptions and shall be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interest of this Nation. The President shall designate the Chairman and Vice Chairman of the Board from such members.

(b) Members of the Board shall serve full time and the Chairman of the Board shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Board shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 302. (a) The primary functions of the Board shall be to study and analyze environmental trends and the factors that effect these trends, relating each area of study and analysis to the conservation, social, economic, and health goals of this Nation. In carrying out this function, the Board shall—

(1) report at least once each year to the President on the state and condition of the environment;

(2) provide advice, assistance, and support to the President on the formulation of national policies to foster and promote the improvement of environmental quality; and

(3) obtain information using existing sources, to the greatest extent practicable, concerning the quality of the environment and make such information available to the public.

(b) The Board shall periodically review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment and make recommendations thereon to the President.

(c) It shall be the duty and function of the Board to assist and advise the President in the preparation of the annual environmental quality report required under section 303.

(d) The Board shall carry out its duties under the provisions of this Act at the direction of the President and shall perform whatever additional duties he may from time to time direct.

SEC. 303. (a) The President shall transmit to the Congress, beginning June 30, 1970, an annual environmental quality report which shall set forth: (a) the status and condition of the major natural, manmade, or altered environmental classes of the Nation; and (b) current and foreseeable trends in quality, management, and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation.

(b) Such report shall be referred in whole or in part to the committees of each house of the Congress which have exercised jurisdiction over the subject matter contained therein.

SEC. 304. (a) In order to obtain assistance and independent advice in the development and implementation of the purposes of this

title, the Board may from time to time establish advisory committees. Committee members shall be selected from among representatives of various State, interstate, and local government agencies, of public or private interests concerned with population growth, environmental quality, and planning for the future, and of the other public and private agencies demonstrating an active interest, as well as other individuals in the fields of population, biology, medical science, psychology, social sciences, ecology, agriculture, economics, law, engineering, and political science who have demonstrated competence with regard to problems of the environment.

(b) The members of the advisory committees appointed pursuant to this title shall be entitled to receive compensation at a rate to be fixed by the Board, but not exceeding \$100 per diem, including traveltime, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5 of the United States Code for persons in the Government service employed intermittently.

(c) The Board shall organize and convene a biennial forum on current problems and issues concerning environmental quality, population, and the future, and publish the proceedings thereof, and participants in such forums shall be selected from among representatives of various State, interstate, and local government agencies, of public or private interests concerned with population growth, environmental quality, and planning for the future, and of other public and private agencies demonstrating an active interest, as well as other individuals in the fields of population, biology, psychology, medical sciences, social sciences, ecology, agriculture, economics, law, engineering, and political science who have demonstrated competence with regard to problems of the environment.

SEC. 304. The Board may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Board may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 305. There are hereby authorized to be appropriated \$1,000,000 annually to carry out the purposes of this title.

Amend the title so as to read: "A bill to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers."

Mr. ALLOTT. Mr. President, as the ranking minority member of the Senate Interior and Insular Affairs Committee, I wish to congratulate our distinguished chairman, the Senator from Washington (Mr. JACKSON), for his unending efforts in obtaining passage of the National Environmental Policy Act of 1969, a measure of particular importance in this era of ever degrading environment.

I believe that some background information would be helpful at this point. Let me take just a moment to trace the historical development of S. 1075.

The concept of a high level council on conservation, natural resources, and environment is not new. It first found support from a former chairman of the Senate Interior Committee, the late Senator Murray. In the 86th Congress, he introduced S. 2549, the Resources and Conservation Act, which would have estab-

lished a high level council on environmental advisers along with the first expression of a comprehensive environmental policy.

The bill while not enacted into law, provided a vehicle for obtaining information in this vital area. The 4 days of hearings before the Senate Interior Committee still serve as a useful reference in this area.

This concept of establishing an environmental policy was carried on in subsequent sessions of Congress. In the 89th Congress, S. 2282 entitled the "Ecological Research and Surveys Act" was introduced by the Senator from Wisconsin (Mr. NELSON). The provisions of this bill were later incorporated into S. 2805, introduced in the 90th Congress by the chairman (Mr. JACKSON), and the former ranking minority member of the committee, Thomas Kuchel.

S. 2805, and similar other measures were the subject matter of a unique joint House-Senate colloquium held July 17, 1968. This colloquium, which was jointly sponsored by the Senate Interior Committee and the House Science and Astronautics Committee, provided a forum for Members of Congress and interested parties to meet and discuss these important issues.

During the 91st Congress three bills were introduced dealing with environmental policy and the creation of new overview institutions.

These bills—S. 237, S. 1075, and S. 1752—were all referred to the Senate Interior Committee, and open hearings were held on them in April of this year. Along with the usual notice in the RECORD, personal invitations were sent to Senators who had expressed a particular interest in this area, to attend and participate in the April hearings.

After the hearings, on May 29, 1969, the chairman introduced amendment No. 25. This amendment resulted from suggestions made by administration witnesses. There was general agreement by administration witnesses, including Dr. DuBridge that a statutory declaration of a national environmental policy would be both appropriate and useful.

Senators will recall that President Nixon had committed himself in the 1968 campaign to a policy of improving the environment in his October 18, 1968, radio address entitled: "A Strategy of Quality: Conservation in the Seventies." In that address, Candidate Nixon characterized our environmental dilemma in these words:

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning and a piecemeal approach to problems of natural resources.

Acting upon that commitment, President Nixon established by Executive order the Environmental Quality Council in May of 1969. This Council is of the highest level. The President, himself, is chairman, and its membership includes the Vice President and five Cabinet members. The council provides the action mechanism to implement environmental policy decisions.

S. 1075, as passed by the Senate, was coordinated with the administration, and was intended to complement the actions

taken by the President. As a result, the bill, as reported was cosponsored by every member of the Senate Interior Committee.

As Dr. DuBridge expressed it during the hearings:

I agree completely that one must have independent evaluations of the activities and responsibilities of the various departments, that it must have the best outside advice that one can get, and operate out of the President's Office to bring the best adversary position . . . to the attention of the Council.

That is what the Board of Environmental Quality Advisors, as envisioned by S. 1075, is intended to do.

In June of this year, after thorough discussions, S. 1075 was ordered to be reported by the Senate Interior Committee. Subsequent to this order, the administration through Director Mayo, of the Bureau of the Budget, recommended further amendments. On July 8, the committee, in a unique move, reconsidered the bill and adopted several of the recommended amendments.

On July 8 the bill was once again ordered reported. The report was filed on July 9 and S. 1075 was passed by the Senate on July 10.

Mr. President, I believe that this historical development is most important for several reasons. First, it shows the amount of work and thought which has gone into this bill. Second, it shows the degree of openness that the committee has displayed during this time. The committee sought suggestions, aid, and participation from Senators, Members of the House, and from the administration. Our committee listened to and acted upon suggestions from many sources.

I believe that it is both timely and appropriate for the Senate to move forward in completing congressional action on this important and urgent matter by appointing conferees to resolve the differences between the House and Senate passed versions of S. 1075. It should be noted, Mr. President, that the House has already appointed its conferees.

The PRESIDING OFFICER. The question is on agreeing to the motion.

The motion was agreed to, and the Presiding Officer appointed Mr. JACKSON, Mr. CHURCH, Mr. NELSON, Mr. ALLOTT, and Mr. JORDAN of Idaho conferees on the part of the Senate.

WATER QUALITY IMPROVEMENT ACT OF 1969

The Senate resumed the consideration of the bill (S. 7) to amend the Federal Water Pollution Control Act, as amended, and for other purposes.

Mr. MUSKIE. Mr. President, there are other matters involving the water pollution control provisions of the bill which will be discussed later in the afternoon, but at this moment I understand we will turn to the consideration of an amendment to be offered by the distinguished Senator from Delaware (Mr. WILLIAMS) involving a matter in which the distinguished Senator from North Carolina (Mr. JORDAN) is interested.

Mr. WILLIAMS of Delaware. Mr. President, will the Senator yield?

Mr. MUSKIE. I yield.

Mr. WILLIAMS of Delaware. I would like to ask a question relating to title III, which begins at the bottom of page 80 of the bill and is entitled "Property Acquisitions."

I am not raising any question of germaneness; but would the Senator explain what the construction of a new Senate Office Building has to do with water and air pollution? I know our procedures are sometimes strange, but what is the relationship between the two subjects? Why are they tied together?

Mr. MUSKIE. May I say that substantively there is none. I think the Senator from North Carolina (Mr. JORDAN) is in a better position to explain how it happens to be here.

May I add that the problem of space for Senators is a pressing one. I know the Senator from North Carolina is more aware of it than I. When he posed to me and to the committee the proposal to include this provision in the bill, I told him I would agree to it, provided it was made clear to the Senate that it was here, that no one would be taken by surprise, that the Senate would have a full opportunity to consider it, and that there would be no effort to try to give it a quiet ride through the Senate. The Senator from North Carolina agreed to that.

Mr. WILLIAMS of Delaware. The reason I raised the question is that there are many who are in favor of the air and water pollution bill itself, but we question the wisdom of attaching a rider to it that we would oppose. I am wondering if this is not a method of getting a free ride on a bill for a measure that could not pass on its own merits.

As to the argument being made on the need for more space, there are two ways of approaching that problem. One is by the more expensive way of constructing another building. Another way, which would be more constructive, would be to cut back on some of the overstuffed subcommittees. A Senator can hardly get in and out of his office because of the number of subcommittees. The idea that the Senate should have enough subcommittees so that every Member can be a chairman results in Members almost being run by the staffs.

I remember when I came here 23 years ago our committees, subcommittees, and Senators, were all in one building. Since that time we have had another building. Now it is proposed to have a third. Let us face it, the Senate committees are overstuffed. I doubt if any Senator can name the subcommittees even on his own committee, there are so many of them.

The subcommittees are so overstuffed and overcrowded that they crowd the Senate floor. Ofttimes we can hardly get in the Senate because it is so overcrowded with staff members.

In order to check this inflationary spiral we are proposing the repeal of the 7-percent investment credit to encourage private industry to cut back on plant expansion, and the President of the United States, by Executive order, has called on State and local governments and all Government agencies to roll back construction of new projects by 75 percent in order to relieve some of the inflationary pressure. I just wonder if we

in the Senate are setting the proper example. In the light of all the requests to private industry and all agencies of Government can we say to them, "We meant for all of you to cooperate; but ourselves—we want a new building."

Would it not be better to postpone and consider this matter at a later time?

Mr. MUSKIE. I think the Senator has served a useful purpose by giving the Members of the Senate an opportunity to make that decision.

Mr. WILLIAMS of Delaware. I will just make this innocent observation. Perhaps there is some relationship between the proposal for a new Senate Office Building and air pollution, so I will not raise a point its not being germane to the pollution problem. I await with interest to hear the explanation.

Mr. MUSKIE. I do not know of any relation, I will say to the Senator.

Mr. WILLIAMS of Delaware. I would not suggest there is—not for the moment.

Mr. SCOTT. Mr. President, I am extremely delighted that the Public Works Committee in reporting this most vital Water Quality Improvement Act of 1969 has seen fit to incorporate a most important amendment which would provide for the training of waste treatment plant operators.

I suggested this amendment, Mr. President, because of the magnitude of need and the critical shortage of trained operators in water pollution control plants throughout the Nation. I was particularly pleased that the distinguished Air and Water Pollution Control Subcommittee chairman, Senator MUSKIE, and the ranking Republican member, Senator BOGGS, incorporated my amendment. I would also like to thank the distinguished chairman of the Public Works Committee, Senator RANDOLPH, and Senator COOPER, the ranking member, as well as the other Senators on the Public Works Committee.

As I have stated before, it is estimated that Federal, State, and local governments will spend \$8 billion by 1974 for new and improved water pollution control facilities. However, no adequate provision has been made to train personnel to run these plants once they are constructed.

There is a critical shortage of approximately 23,000 trained operators in water pollution control plants throughout the Nation. Many of our existing waste treatment plants are operating well below their reasonable potential, thereby causing unnecessary pollution of our streams and rivers. If the struggle for clean water is to be won, we must improve the skills of existing operators and add substantially to their numbers.

The magnitude of the need can be seen by looking at the situation in Pennsylvania. Pennsylvania has 307 square miles of inland waters. It has a total of 460 water treatment facilities and 1,142 communities with sewer systems. If each of these 1,142 communities, and each of the 460 treatment plants employed one operator—and obviously some employ many more—you can quickly estimate the number of operators who are involved in one way or another with pollution control. Many of the existing op-

erators will need additional training as plants are modernized and new treatment procedures initiated. When you add to this number the 665 communities in Pennsylvania that have no treatment facilities, but will be acquiring plants in the near future, you can see the amount of training which is needed for efficient operation of pollution control facilities. That is only one State.

It was to meet this need that I offered this amendment to the water quality improvement bill—S. 7—which would establish a 2-year pilot program for the training of plant operators. It would provide \$5 million the first year, and \$7½ million the second, to train about 9,000 men.

If my pilot program is successful, I foresee that training will be an integral part of all future pollution control planning. I quote from the Public Works Committee report:

The committee was pleased to receive and include in the bill a proposal by Senator Hugh Scott to authorize pilot programs for training plant operators and technicians. The committee recognizes that a great deal more than a pilot program will be required if Federal funds for sewage treatment plant construction are to be invested wisely, but believes operating experience with a pilot program would provide a sound base for expanded legislation in the near future.

The pilot program which I have introduced is the first step in insuring that our Nation's antipollution efforts are backed up by well-trained personnel. I will study closely the operation of this training program, and I will be ready with followup legislation to expand it so that clean streams will become a reality, not a wish.

Again, I thank the committee for the favorable consideration of this amendment.

Mr. MUSKIE. In response to the distinguished Senator from Pennsylvania, I would like to express to him the appreciation of the subcommittee for his valuable contribution to the Water Quality Improvement Act. The amendment to provide for a pilot program of manpower training for waste treatment plant operators is an excellent example of how one program can accomplish two vital objectives.

First, this provision recognizes that the operation and maintenance of the Nation's waste treatment facilities will be only as good as the competence of the operators. Initial findings of the General Accounting Office have revealed that this competence has not been of the level necessary for the program's success. I hope that this pilot program, properly administered, will help correct this situation.

Second, this program will provide valuable job opportunities for many of the disadvantaged citizens in our Nation's metropolitan areas. By training the disadvantaged in a field which requires great technical expertise, this program should be a source of vital upward mobility for many Americans in the Nation's workforce.

I thank the Senator from Pennsylvania.

Mr. JORDAN of North Carolina. Mr. President, at the very outset, with re-

DIGEST of Congressional Proceedings

OF INTEREST TO THE DEPARTMENT OF AGRICULTURE

OFFICE OF BUDGET AND FINANCE
(FOR INFORMATION ONLY;
NOT TO BE QUOTED OR CITED)

For actions of Dec. 10, 1969
91st-1st No. 205

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HIGHLIGHTS: Senate committee reported foreign aid authorization bill.

HOUSE

1. POPULATION. The Government Operations Committee reported with amendment H. R. 15165, to establish a Commission on Population Growth and the American Future (H. Rept. 91-738). p. H12130
2. HOUSING. Received the conference report on S. 2864, the Housing Act of 1969 (H. Rept. 91-740). pp. H12120-9
3. APPROPRIATIONS. Rep. Mahon announced the House will consider the supplemental appropriation bill for fiscal 1970 "on any day after today." pp. H12014-5
Agreed to the conference report on H. R. 13763, the 1970 legislative branch appropriation bill. pp. H12048-62
4. ARTS AND HUMANITIES. Both Houses received from the President a message asking Congress to extend the legislation creating the National Foundation on the Arts and Humanities and increase funds available for it (H. Doc. 91-202); to the S. Labor and Public Welfare and H. Education and Labor Committees. pp. S16340-1, H12016
5. EXPORT CONTROL. Rejected, 157-238, the conference report on H. R. 4293, to provide for continuation of authority for regulation of exports. pp. H12016-47
6. VIRGIN ISLANDS. The Interior and Insular Affairs Committee considered and passed over without prejudice H. R. 105 and H. R. 106, to establish land-grant colleges in the Virgin Islands and Guam. p. D1189
7. ENVIRONMENT. Conferees agreed to file a report on S. 1075, to provide for studies and research in connection with national policy on environmental quality. p. D1191
8. TAXATION. Rep. Vanik announced his intention to offer a preferential motion to instruct the House conferees to insist upon the House provisions relating to the oil depletion allowance and tax relief by way of increased dependency exemptions. p. H12015
9. FOREIGN AID. Rep. Moss congratulated A.I.D. Administrator Hannah on his creation within A.I.D. of an independent internal audit activity. p. H12080
10. CONSUMERS. Rep. Halpern urged Congress to "plug the loopholes" in the 1968 Truth-in-Lending Act. p. H12098
11. AIR POLLUTION. Rep. Miller inserted articles discussing our national commitment to control air pollution. pp. H12117-20

SENATE

12. APPROPRIATIONS. Agreed to the Conference report on H. R. 12964, the State, Justice, Commerce and Judiciary appropriation bill, 1970. p. S16266
Sen. Bayh submitted two amendments to H. R. 14916, the District of Columbia appropriations bill, 1970. p. S16290

Dec. 17, 1969

HOUSE

1. ENVIRONMENT. Received the conference report on S. 1075, the proposed National Environmental Policy Act of 1969 (H. Rept. 91-765). p. H12686, pp. H12633-6
2. SUPERGRADES. The Post Office and Civil Service Committee voted to report (but did not actually report) S. 2325, amended, to increase the number of supergrade positions. p. D1227
3. COMPARABILITY PAY. Conferees were appointed on H. R. 13000, to implement the Federal employee pay comparability system, to establish a Federal Employee Salary Commission and a Board of Arbitration; and Rep. Dulski inserted a joint statement by himself and Rep. Udall expressing the opinion that nothing will be gained by sending the "present emasculated Senate version to the White House this week," p. H12589.
4. CIVIL SERVICE. Concurred in the Senate amendment, with an amendment to H. R. 9233, to amend title 5, U. S. C., to promote the efficient and effective use of the revolving fund of the Civil Service Commission. p. H12589
5. FOOD STAMPS. The "Daily Digest" states that the Agriculture Committee met in executive session for continued consideration of the food stamp program and adjourned to continue on the first Tuesday after the first Monday the House meets after recess. p. D1226
6. WATER QUALITY. The "Daily Digest" states that the conferees met in executive session on H. R. 4148, the proposed Water Quality Improvement Act, but did not reach final agreement and recessed subject to call. p. D1227
7. FOREIGN AID. The conferees, in executive session, agreed to file a conference report on H. R. 14580, the foreign aid authorization bill. p. D1227
8. VEHICLE SAFETY. Conferees were appointed on H.R. 10105, to amend the National Traffic and Motor Vehicle Safety Act of 1966 to authorize appropriations for fiscal years 1970 and 1971. This bill contains a provision requiring the Department of Transportation to report on prevention of farm machinery accidents. p. H12590
9. INFLATION; INTEREST RATES. Passed with amendment S. 2577, to lower interest rates and fight inflation, to help housing, small business, and employment. Conferees were appointed. H. R. 15091, a similar bill, which has been passed earlier, 259-136, with amendments, was tabled. pp. H12591-633
Rep. Madden had previously expressed his hope that the proposed legislation would be passed. pp. H12589-90
Received from the President a communication urging Congress to hold down spending and maintain revenues (H. Doc. 91-205). p. H12686
10. DESERTLAND ENTRYMEN. The Agriculture Committee reported H. R. 6244, to enable the Secretary of Agriculture to extend financial assistance to desertland entrymen to the same extent as such assistance is available to homestead entrymen (H. Rept. 91-762). p. H12686

DIGEST of Congressional Proceedings

OF INTEREST TO THE DEPARTMENT OF AGRICULTURE

OFFICE OF BUDGET AND FINANCE
(FOR INFORMATION ONLY;
NOT TO BE QUOTED OR CITED)

For actions of December 17, 1969
91st-1st No. 210

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HIGHLIGHTS: House received conference report on national environmental policy bill. House conferees were appointed on comparability pay bill. House committee approved bill to increase number of supergrades. Senate committee approved migrant workers health bill.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

DECEMBER 17, 1969.—Ordered to be printed

Mr. GARMATZ, from the committee of conference,
submitted the following

CONFERENCE REPORT

[To accompany S. 1075]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075), to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House to the text of the bill and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the House amendment insert the following: That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density

urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irreticvable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

SEC. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

SEC. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

SEC. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. *The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.*

SEC. 202. *There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.*

SEC. 203. *The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).*

SEC. 204. *It shall be the duty and function of the Council—*

(1) *to assist and advise the President in the preparation of the Environmental Quality Report required by section 201;*

(2) *to gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are inter-*

fering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

SEC. 205. In exercising its powers, functions, and duties under this Act, the Council shall—

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order numbered 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments, and other groups, as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

SEC. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

And the House agree to the same.

That the Senate recede from its disagreement to the amendment of the House to the title of the bill, and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the amendment of the House to the title of the bill, insert the following: "An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes."

And the House agree to the same.

EDWARD A. GARMATZ,
JOHN D. DINGELL,
WAYNE N. ASPINALL,
W. S. MAILLIARD,
JOHN P. SAYLOR,

Managers on the Part of the House.

HENRY M. JACKSON,
FRANK CHURCH,
GAYLORD NELSON,
GORDON ALLOTT,
LEN B. JORDAN,

Managers on the Part of the Senate.

STATEMENT OF THE MANAGERS ON THE PART OF THE HOUSE

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The House struck out all of the Senate bill after the enacting clause and inserted a substitute amendment. The committee of conference has agreed to a substitute for both the Senate bill and the House amendment. Except for technical clarifying, and conforming changes, the following statement explains the differences between the House amendment and the substitute agreed to in conference.

PROVISIONS OF THE CONFERENCE SUBSTITUTE

First section and section 2

Section 1 of the Senate bill provided that the bill may be cited as the "National Environmental Policy Act of 1969". Section 2 of the Senate bill contained a statement of the purpose of the bill. There were no similar provisions in the House amendment. The conference substitute conforms to the Senate bill with respect to these two sections.

TITLE I—NATIONAL ENVIRONMENTAL POLICY

Section 101

The Senate bill contained a recognition by Congress of (1) the critical dependency of man on his environment, (2) the profound influences which the factors of contemporary life have had and will have on the environment, and (3) certain specified goals in the management of the environment which the Federal Government should, as a matter of national policy, attain by use of all possible means, consistent with other essential considerations of national policy. The House amendment (in the first section thereof) contained a general statement of national environmental policy, but did not include specified policy goals. The first section of the House amendment also stated that the Federal Government should achieve the general policy in cooperation with State and local governments and certain specified public and private organizations and that financial and technical assistance should be among the means and measures used by the Federal Government to achieve the policy. Under the conference agreement, the language of the House amendment is substantially retained in section 101(a) of the conference substitute; the language

setting forth the specified organizations with which the Government should cooperate was dropped in favor of "other concerned public and private agencies".

The national goals of environmental policy specified in the Senate bill are set forth in section 101(b) of the conference substitute.

Section 101(c) of the conference substitute states that "Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment". The language of the conference substitute reflects a compromise by the conferees with respect to a provision in the Senate bill (but which was not in the House amendment) which stated that the Congress recognizes that "each person has a fundamental and inalienable right to a healthful environment * * *". The compromise language was adopted because of doubt on the part of the House conferees with respect to the legal scope of the original Senate provision.

Section 102

This section of the conference substitute is based on section 102 of the Senate bill. There was no comparable provision in the House amendment. Under the conference substitute, the Congress authorizes and directs that, *to the fullest extent possible*: (1) the Federal laws, regulations, and policies be administered in accordance with the policies set forth in the bill; and (2) all Federal agencies shall—

(A) utilize a systematic, interdisciplinary approach to insure integrated use of the sciences and arts in any official planning or decisionmaking which may have an impact on the environment;

(B) in consultation with the Council on Environmental Quality, identify and develop methods and procedures to insure that unquantified environmental amenities will be considered in the agency decisionmaking process, along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation or other major Federal actions a detailed statement by the responsible official on the environmental impact of the proposed action, any adverse environmental effects which can not be avoided should the proposal be adopted, alternatives to the proposed action, the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved. Under the conference substitute, the responsible Federal official, prior to making any such detailed statement, shall consult with and obtain the comments of any Federal agency having jurisdiction by law or special expertise with respect to any environmental impact involved and the comments of any such agency, together with the comments and views of appropriate State and local agencies shall thereafter be made available to the President, the Council on Environmental Quality, and the public under the provisions of section 552 of title 5, United States Code, and shall accompany the proposal through the subsequent review process. The conferees do not intend that the requirements for comment by other agencies should unreasonably delay the processing of Federal proposals and anticipate that the President will promptly prepare and establish by Executive

order a list of those agencies which have "jurisdiction by law" or "special expertise" in various environmental matters. With regard to State and local agencies, it is not the intention of the conferees that those local agencies with only a remote interest and which are not primarily responsible for development and enforcement of environmental standards be included.

The conferees believe that in most cases the requirement for State and local review may be satisfied by notice of proposed action in the Federal Register and by providing supplementary information upon request of the State and local agencies. (To prevent undue delay in the processing of Federal proposals, the conferees recommend that the President establish a time limitation for the receipt of comments from Federal, State, and local agencies similar to the 90-day review period presently established for comment upon certain Federal proposals.);

(D) study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend support to programs and other ventures designed to maximize international cooperation in anticipating and preventing a decline in the world environment;

(F) make available to State and local governments and individuals and organizations advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the Planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality.

As noted above, the conference substitute provides that the phrase "to the fullest extent possible" applies with respect to those actions which Congress authorizes and directs to be done under both clauses (1) and (2) of section 102 (in the Senate bill, the phrase applied only to the directive in clause (1)). In accepting this change to section 102 (and also to the provisions of section 103), the House conferees agreed to delete section 9 of the House amendment from the conference substitute. Section 9 of the House amendment provided that "nothing in this Act shall increase, decrease or change any responsibility or authority of any Federal official or agency created by other provision of law." In receding from this House provision in favor of the less restrictive provision "to the fullest extent possible", the House conferees are of the view that the new language does not in any way limit the congressional authorization and directive to all agencies of the Federal Government set out in subparagraphs (A) through (H) of clause (2) of section 102. The purpose of the new language is to make it clear that each agency of the Federal Government shall comply with the directives set out in such subparagraphs (A) through (H) unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance with one of the directives impossible. If such is found to be the case, then compliance with the particular directive is not immediately required. However, as to other activities of that agency, compliance is required. Thus, it is the intent of the conferees that the provision "to the

fullest extent possible" shall not be used by any Federal agency as a means of avoiding compliance with the directives set out in section 102. Rather, the language in section 102 is intended to assure that all agencies of the Federal Government shall comply with the directives set out in said section "to the fullest extent possible" under their statutory authorizations and that no agency shall utilize an excessively narrow construction of its existing statutory authorizations to avoid compliance.

Section 103

This section is based upon a provision of the Senate bill (section 102(f)) not in the House amendment. This section, as agreed to by the conferees, provides that all agencies of the Federal Government shall review their "present statutory authority, administrative regulations, and current policies and procedures to determine whether there are any deficiencies and inconsistencies therein which prohibit full compliance with the purpose and provisions" of the bill. If an agency finds such deficiencies or inconsistencies, it is required under this section to propose to the President not later than July 1, 1971, such measures as may be necessary to bring its authority and policies into conformity with the intent, purposes, and procedures of the bill. Section 103 thereby provides a mechanism which shall be utilized by all Federal agencies (1) to ascertain whether there is any provision of their statutory authority which clearly precludes full compliance with the bill and (2) if such is found, to recommend changes in their statutory authority which will enable full compliance with the bill. In conducting the review noted above, it is the understanding of the conferees that an agency shall not construe its existing authority in an unduly narrow manner. Rather, the intent of the conferees is that all Federal agencies shall comply with the provisions of section 102 "to the fullest extent possible," unless, of course, there is found to be a clear conflict between its existing statutory authority and the bill.

Section 104

This section, which was not in the House amendment and which is corollary to the actions taken by the conferees with respect to section 102 and 103 of the conference substitute, provides that nothing in such sections 102 or 103 shall affect the specific statutory obligations of any Federal agency—

- (1) to comply with criteria and standards of environmental quality;
- (2) to coordinate or consult with any Federal or State agency;
- or
- (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Section 105

This section declares that the policies and goals set forth in the bill are supplementary to those set forth in existing authorities of Federal agencies. The effect of this section, which is a slightly revised version of section 103 of the Senate bill, is to give recognition to the fact that the bill does not repeal existing law. This section does not, however, obviate the requirement that the Federal agencies conduct their activities in accordance with the provisions of this bill unless to do so would clearly violate their existing statutory authorizations.

TITLE 11—COUNCIL ON ENVIRONMENTAL QUALITY

Section 201

Section 201 of the conference substitute, which conforms, except for a date change, with the language of section 2 of the House amendment, requires the President to submit to the Congress annually, beginning July 1, 1970, an environmental quality report which will set forth an up-to-date inventory of the American environment, broadly and generally identified, together with an estimate of the impact of visible future trends upon the environment. Such report shall also include a review of the programs and activities of the Federal, State, and local governments, as well as those of nongovernmental groups, with respect to environmental conditions, together with recommendations for remedying the deficiencies of existing programs, including legislative recommendations.

Section 202

This section of the conference substitute establishes in the Executive Office of the President a Council on Environmental Quality composed of three members appointed by the President by and with the advice and consent of the Senate. One of the members shall be designated by the President as the Chairman of the Council. The Senate bill would have created a three-member Board of Environmental Quality Advisers in the Executive Office of the President. (The Senate bill would also have provided for an additional officer, a Deputy Director, in the Office of Science and Technology to assist with environmental problems. The establishment of this additional office is not retained in the conference substitute.) Section 3 of the House amendment would have established a Council on Environmental Quality with five members. The conference substitute provision is basically the House provision but with the membership of the Council reduced to three.

Section 203

The provisions of section 203 of the conference substitute (which were contained in both the Senate bill and the House amendment) permits the Council to hire such officers and employees as are necessary to carry out the purposes of the act and also permits the Council to hire such experts and consultants as may be appropriate.

Section 204

The House amendment set forth the following duties and functions of the Council on Environmental Quality—

(1) to assist the President in the preparation of the environmental quality report;

(2) to gather information on the short- and long-term problems that merit Council attention, together with a continuing analysis of these problems as they may affect the policies stated in section 101;

(3) to maintain a continuing review of Federal programs and activities as they may affect the policies declared in section 101, and to keep the President informed on the degree to which those programs and activities may be consistent with those policies;

(4) to develop and to recommend policies to the President, on the basis of its activities, whereby the quality of our environment may be enhanced, consistent with our social, economic and other requirements;

(5) to make studies and recommendations relating to environmental considerations, as the President may direct; and

(6) to report at least once each year to the President.

The conference substitute contains the functions and duties listed above and also adds the following functions and duties (which, under the Senate bill, would have been the responsibilities of other Federal agencies)—

(1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; and

(2) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes.

Section 205

Section 205 of the conference substitute sets forth those public and private organizations with which the Council on Environmental Quality shall consult in carrying out its functions and duties under the Act and states that the Council should utilize, to the fullest extent possible, the services, facilities, and information of public and private organizations and individuals in carrying out such functions and duties. Section 205 conforms to the language in section 7 of the House amendment, with the exception that the conference substitute provision specifies that the Council shall consult with the Citizen's Advisory Committee on Environmental Quality which was established in May 1969, by Executive order.

Section 206

This section provides that the Chairman of the Council on Environmental Quality shall be compensated at the rate provided for at level II of the Executive Schedule Pay Rates, and that the other members of the Council shall be compensated at the rate provided for in level IV of such rates. This section conforms with the rates of compensation provided for in both the Senate bill and House amendment.

Section 207

This section of the conference substitute authorizes the appropriation of not to exceed \$300,000 in fiscal year 1970, \$700,000 in fiscal year 1971, and \$1 million in each fiscal year thereafter, to carry out the purposes of the act. Under the House amendment, the same amounts were authorized to be appropriated except with respect to fiscal year 1971, for which \$500,000 was authorized. The Senate bill authorized \$1 million to be appropriated annually.

EDWARD A. GARMATZ,
JOHN D. DINGELL,
W. S. MAILLIARD,
JOHN P. SAYLOR,

Managers on the Part of the House.

may, in the discretion of the Board, be brought in the name of the United States.

Sec. 210. Criminal penalty

Whoever willfully violates any regulation under this title shall be fined not more than \$1,000 or imprisoned not more than one year, or both.

TITLE III—SMALL BUSINESS ADMINISTRATION ACTIVITY

SEC. 301. The Small Business Administration shall promptly increase the level of its financing functions utilizing the business loan and investment fund established under section 4(c)(1)(B) of the Small Business Act (15 U.S.C. 633(a)(1)(B)) by \$70,000,000 above the level prevailing at the time of enactment of this Act. In the event that insufficient appropriated funds are available to carry out the provisions of this section, request for the necessary funds shall be promptly made by the Small Business Administration and cleared by all components of the executive branch having any functions with respect to such requests. The Small Business Administration shall submit to Congress a monthly report of its implementation of this section.

The amendment was agreed to.

The Senate bill was ordered to be read a third time, was read the third time and passed.

The title was amended so as to read: "To lower interest rates and fight inflation, to help housing, small business, and employment, and for other purposes."

A motion to reconsider was laid on the table.

A similar House bill (H.R. 15091) was laid on the table.

APPOINTMENT OF CONFEREES ON S. 2577

Mr. PATMAN. Mr. Speaker, I ask unanimous consent that the House insist upon its amendment to the bill (S. 2577) and request a conference with the Senate thereon.

The SPEAKER. Is there objection to the request of the gentleman from Texas? The Chair hears none, and appoints the following conferees: Messrs. PATMAN, BARRETT, SULLIVAN, REUSS, WIDNALL, BROCK, and STANTON.

FURTHER MESSAGE FROM THE SENATE

A further message from the Senate by Mr. Arrington, one of its clerks, announced that the Senate had passed with amendments in which the concurrence of the House is requested, a bill of the House of the following title:

H.R. 13111. An act making appropriations for the Department of Labor, and Health, Education, and Welfare, and related agencies, for the fiscal year ending June 30, 1970, and for other purposes.

The message also announced that the Senate insists upon its amendments to the bill (H.R. 13111) entitled "An act making appropriations for the Department of Labor, and Health, Education, and Welfare, and related agencies, for the fiscal year ending June 30, 1970, and for other purposes," requests a conference with the House on the disagreeing votes of the two Houses thereon, and appoints Mr. MAGNUSON, Mr. STENNIS, Mr. BIBLE, Mr. BYRD of West Virginia, Mr.

HOLLAND, Mr. COTTON, Mr. FONG, Mr. BOGGS, and Mr. YOUNG of North Dakota, to be the conferees on the part of the Senate.

GENERAL LEAVE

Mr. PATMAN. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days to extend their remarks and include relevant extraneous matter on the bill just passed.

The SPEAKER. Without objection, it is so ordered.

There was no objection.

CONFERENCE REPORT ON S. 1075, NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Mr. DINGELL submitted the following conference report and statement on the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers:

CONFERENCE REPORT (H. REPT. No. 91-765)

The committee of conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075), to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House to the text of the bill and agree to the same with an amendment as follows: In lieu of the matter proposed to be inserted by the House amendment insert the following:

That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the

social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to

the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

SEC. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

SEC. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

SEC. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development, and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

SEC. 202. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be

composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

SEC. 203. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 204. It shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201;

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

SEC. 205. In exercising its powers, functions, and duties under this Act, the Council shall—

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order numbered 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments, and other groups, as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of ef-

fort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

SEC. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

And the House agree to the same.

That the Senate recede from its disagreement to the amendment of the House to the title of the bill, and agree to the same with an amendment as follows: In lieu of the matter proposed to be inserted by the amendment of the House to the title of the bill, insert the following: "An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes."

And the House agree to the same.

EDWARD A. GARMATZ,
JOHN D. DINGELL,
WAYNE N. ASPINALL,
W. S. MAILLIARD,
JOHN P. SAYLOR,

Managers on the Part of the House.

HENRY M. JACKSON,
FRANK CHURCH,
GAYLORD NELSON,
GORDON ALLOTT,
LEN B. JORDAN,

Managers on the Part of the Senate.

STATEMENT

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The House struck out all of the Senate bill after the enacting clause and inserted a substitute amendment. The committee of conference has agreed to a substitute for both the Senate bill and the House amendment. Except for technical clarifying, and conforming changes, the following statement explains the differences between the House amendment and the substitute agreed to in conference.

PROVISIONS OF THE CONFERENCE SUBSTITUTE

First section and section 2

Section 1 of the Senate bill provided that the bill may be cited as the "National Environmental Policy Act of 1969". Section 2 of the Senate bill contained a statement of the purpose of the bill. There were no similar provisions in the House amendment. The conference substitute conforms to the Senate bill with respect to these two sections.

TITLE I—NATIONAL ENVIRONMENTAL POLICY

Section 101

The Senate bill contained a recognition by Congress of (1) the critical dependency of man on his environment, (2) the profound influences which the factors of contemporary life have had and will have on the environment, and (3) certain specified goals in the management of the environment which the Federal Government should, as a matter of

national policy, attain by use of all possible means, consistent with other essential considerations of national policy. The House amendment (in the first section thereof) contained a general statement of national environmental policy, but did not include specified policy goals. The first section of the House amendment also stated that the Federal Government should achieve the general policy in cooperation with State and local governments and certain specified public and private organizations and that financial and technical assistance should be among the means and measures used by the Federal Government to achieve the policy. Under the conference agreement, the language of the House amendment is substantially retained in section 101(a) of the conference substitute; the language setting forth the specified organizations with which the Government should cooperate was dropped in favor of "other concerned public and private agencies".

The national goals of environmental policy specified in the Senate bill are set forth in section 101(b) of the conference substitute.

Section 101(c) of the conference substitute states that "Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment". The language of the conference substitute reflects a compromise by the conferees with respect to a provision in the Senate bill (but which was not in the House amendment) which stated that the Congress recognizes that "each person has a fundamental and inalienable right to a healthful environment . . .". The compromise language was adopted because of doubt on the part of the House conferees with respect to the legal scope of the original Senate provision.

Section 102

This section of the conference substitute is based on section 102 of the Senate bill. There was no comparable provision in the House amendment. Under the conference substitute, the Congress authorizes and directs that, *to the fullest extent possible*: (1) the Federal laws, regulations, and policies be administered in accordance with the policies set forth in the bill; and (2) all Federal agencies shall—

(A) utilize a systematic, interdisciplinary approach to insure integrated use of the sciences and arts in any official planning or decision-making which may have an impact on the environment;

(B) in consultation with the Council on Environmental Quality, identify and develop methods and procedures to insure that unquantified environmental amenities will be considered in the agency decision making process, along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation or other major Federal actions a detailed statement by the responsible official on the environmental impact of the proposed action, any adverse environmental effects which can not be avoided should the proposal be adopted, alternatives to the proposed action, the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved (Under the conference substitute, the responsible Federal official, prior to making any such detailed statement, shall consult with and obtain the comments of any Federal agency having jurisdiction by law or special expertise with respect to any environmental impact involved and the comments of any such agency, together with the comments and views of appropriate State and local agencies shall thereafter be made available to the President, the Council on

Environmental Quality, and the public under the provisions of section 552 of title 5, United States Code, and shall accompany the proposal through the subsequent review process. The conferees do not intend that the requirements for comment by other agencies should unreasonably delay the processing of Federal proposals and anticipate that the President will promptly prepare and establish by executive order a list of those agencies which have "jurisdiction by law" or "special expertise" in various environmental matters. With regard to State and local agencies, it is not the intention of the conferees that those local agencies with only a remote interest and which are not primarily responsible for development and enforcement of environmental standards be included. The conferees believe that in most cases the requirement for State and local review may be satisfied by notice of proposed action in the Federal Register and by providing supplementary information upon request of the State and local agencies. To prevent undue delay in the processing of Federal proposals, the conferees recommend that the President establish a time limitation for the receipt of comments from Federal, State, and local agencies similar to the 90-day review period presently established for comment upon certain Federal proposals.);

(D) study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long range character of environmental problems and, where consistent with the foreign policy of the United States, lend support to programs and other ventures designed to maximize international cooperation in anticipating and preventing a decline in the world environment;

(F) make available to State and local governments and individuals and organizations advice and information useful in restoring, maintaining and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality.

As noted above, the conference substitute provides that the phrase "to the fullest extent possible" applies with respect to those actions which Congress authorizes and directs to be done under both clauses (1) and (2) of section 102 (in the Senate bill, the phrase applied only to the directive in clause (1)). In accepting this change to section 102 (and also to the provisions of section 103), the House conferees agreed to delete section 9 of the House amendment from the conference substitute. Section 9 of the House amendment provided that "nothing in this Act shall increase, decrease or change any responsibility or authority of any Federal officials or agency created by other provision of law." In receding from this House provision in favor of the less restrictive provision "to the fullest extent possible", the House conferees are of the view that the new language does not in any way limit the Congressional authorization and directive to all agencies of the Federal Government set out in subparagraphs (A) through (H) of clause (2) of section 102. The purpose of the new language is to make it clear that each agency of the Federal Government shall comply with the directives set out in such subparagraphs (A) through (H) unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance with one of the directives impossible. If such is found to be the case, then compliance with the particular directive is not immediately required. However, as to other activities of that agency, compliance is required. Thus, it is the intent of the conferees that the provision "to the

fullest extent possible" shall not be used by any Federal agency as a means of avoiding compliance with the directives set out in section 102. Rather, the language in section 102 is intended to assure that all agencies of the Federal Government shall comply with the directives set out in said section "to the fullest extent possible" under their statutory authorizations and that no agency shall utilize an excessively narrow construction of its existing statutory authorizations to avoid compliance.

Section 103

This section is based upon a provision of the Senate bill (section 102(f)) not in the House amendment. This section, as agreed to by the conferees, provides that all agencies of the Federal Government shall review their "present statutory authority, administrative regulations, and current policies and procedures to determine whether there are any deficiencies and inconsistencies therein which prohibit full compliance with the purpose and provisions" of the bill. If an agency finds such deficiencies or inconsistencies, it is required under this section to propose to the President not later than July 1, 1971, such measures as may be necessary to bring its authority and policies into conformity with the intent, purposes, and procedures of the bill. Section 103 thereby provides a mechanism which shall be utilized by all Federal agencies (1) to ascertain whether there is any provision of their statutory authority which clearly precludes full compliance with the bill and (2) if such is found, to recommend changes in their statutory authority which will enable full compliance with the bill. In conducting the review noted above, it is the understanding of the conferees that an agency shall not construe its existing authority in an unduly narrow manner. Rather, the intent of the conferees is that all Federal agencies shall comply with the provisions of section 102 "to the fullest extent possible," unless, of course, there is found to be a clear conflict between its existing statutory authority and the bill.

Section 104

This section, which was not in the House amendment and which is corollary to the actions taken by the conferees with respect to sections 102 and 103 of the conference substitute, provides that nothing in such sections 102 or 103 shall affect the specific statutory obligations of any Federal agency—

(1) to comply with criteria and standards of environmental quality;

(2) to coordinate or consult with any Federal or State agency; or

(3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Section 105

This section declares that the policies and goals set forth in the bill are supplementary to those set forth in existing authorities of Federal agencies. The effect of this section, which is a slightly revised version of section 103 of the Senate bill, is to give recognition to the fact that the bill does not repeal existing law. This section does not, however, obviate the requirement that the Federal agencies conduct their activities in accordance with the provisions of this bill unless to do so would clearly violate their existing statutory authorizations.

TITLE II—COUNCIL ON ENVIRONMENTAL QUALITY

Section 201

Section 201 of the conference substitute, which conforms, except for a date change, with the language of section 2 of the House amendment, requires the President to submit to the Congress annually, beginning July 1, 1970, an Environmental Quality Report which will set forth an up-to-date inventory of the American environment, broadly and generally identified, together

with an estimate of the impact of visible future trends upon the environment. Such report shall also include a review of the programs and activities of the Federal, State, and local governments, as well as those of nongovernmental groups, with respect to environmental conditions, together with recommendations for remedying the deficiencies of existing programs, including legislative recommendations.

Section 202

This section of the conference substitute establishes in the Executive Office of the President a Council on Environmental Quality composed of three members appointed by the President by and with the advice and consent of the Senate. One of the members shall be designated by the President as the chairman of the Council. The Senate bill would have created a three-member Board of Environmental Quality Advisors in the Executive Office of the President. (The Senate bill would also have provided for an additional officer, a Deputy Director, in the Office of Science and Technology to assist with environmental problems. The establishment of this additional office is not retained in the conference substitute.) Section 3 of the House amendment would have established a Council on Environmental Quality with five members. The conference substitute provision is basically the House provision but with the membership of the Council reduced to three.

Section 203

The provisions of section 203 of the conference substitute (which were contained in both the Senate bill and the House amendment) permits the Council to hire such officers and employees as are necessary to carry out the purposes of the Act and also permits the Council to hire such experts and consultants as may be appropriate.

Section 204

The House amendment set forth the following duties and functions of the Council on Environmental Quality—

- (1) to assist the President in the preparation of the Environmental Quality Report;
- (2) to gather information on the short- and long-term problems that merit Council attention, together with a continuing analysis of these problems as they may affect the policies stated in section 101;
- (3) to maintain a continuing review of Federal programs and activities as they may affect the policies declared in section 101, and to keep the President informed on the degree to which those programs and activities may be consistent with those policies;
- (4) to develop and to recommend policies to the President, on the basis of its activities, whereby the quality of our environment may be enhanced, consistent with our social, economic and other requirements;
- (5) to make studies and recommendations relating to environmental considerations, as the President may direct; and
- (6) to report at least once each year to the President.

The conference substitute contains the functions and duties listed above and also adds the following functions and duties (which, under the Senate bill, would have been the responsibilities of other Federal agencies)—

- (1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; and
- (2) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes.

Section 205

Section 205 of the conference substitute sets forth those public and private organiza-

tions with which the Council on Environmental Quality shall consult in carrying out its functions and duties under the Act and states that the Council should utilize, to the fullest extent possible, the services, facilities, and information of public and private organizations and individuals in carrying out such functions and duties. Section 205 conforms to the language in section 7 of the House amendment, with the exception that the conference substitute provision specifies that the Council shall consult with the Citizen's Advisory Committee on Environmental Quality which was established in May, 1969, by Executive Order.

Section 206

This section provides that the Chairman of the Council on Environmental Quality shall be compensated at the rate provided for at Level II of the Executive Schedule Pay Rates, and that the other members of the Council shall be compensated at the rate provided for in Level IV of such Rates. This section conforms with the rates of compensation provided for in both the Senate bill and House amendment.

Section 207

This section of the conference substitute authorizes the appropriation of not to exceed \$300,000 in fiscal year 1970, \$700,000 in fiscal year 1971, and \$1,000,000 in each fiscal year thereafter, to carry out the purposes of the Act. Under the House amendment, the same amounts were authorized to be appropriated except with respect to fiscal year 1971, for which \$500,000 was authorized. The Senate bill authorized \$1,000,000 to be appropriated annually.

EDWARD A. GARMATZ,
JOHN D. DINGELL,
W. S. MAILLIARD,
JOHN P. SAYLOR,

Managers on the Part of the House.

CONFERENCE REPORT ON S. 2917, FEDERAL COAL MINE HEALTH AND SAFETY ACT

Mr. PERKINS. Mr. Speaker, I call up the conference report on the bill (S. 2917) to improve the health and safety conditions of persons working in the coal mining industry of the United States, and ask unanimous consent that the statement of the managers on the part of the House be read in lieu of the report.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Kentucky?

Mr. ERLBORN. Mr. Speaker, reserving the right to object, I would like to make a parliamentary inquiry.

The SPEAKER. The gentleman will state his parliamentary inquiry.

Mr. ERLBORN. It is my intention to make a point of order against the conference report. I understand that this must be made before the statement on the part of the managers is read. Am I correct?

The SPEAKER. In response to the parliamentary inquiry, the gentleman's understanding is also the understanding of the Chair. The gentleman is correct.

Mr. ERLBORN. If I do not object to the unanimous-consent request for dispensing with the reading of the report, will I be protected in my point of order before the statement of the managers is read?

The SPEAKER. The gentleman could reserve a point of order, and he could exercise it at the conclusion of the read-

ing of the statement of the managers on the part of the House.

Mr. ERLBORN. Mr. Speaker, I reserve the point of order against the report and withdraw my reservation of objection.

The SPEAKER. Is there objection to the request of the gentleman from Kentucky?

There was no objection.

The Clerk read the statement.

(For conference report and statement, see proceedings of the House of December 16, 1969.)

Mr. PERKINS (during the reading). Mr. Speaker, I ask unanimous consent that further reading of the statement of the managers on the part of the House be dispensed with.

The SPEAKER. Is there objection to the request of the gentleman from Kentucky?

There was no objection.

Mr. ERLBORN. Mr. Speaker, I renew my point of order.

The SPEAKER. The gentleman will state his point of order.

Mr. ERLBORN. Mr. Speaker, I made a point of order against the conference report in that in several instances matters not in disagreement between the House and the Senate were amended in the conference report, and the conference report includes matters that were not included in either the House or the Senate version of the bill. I would like to be heard on that point of order.

The SPEAKER. The Chair will hear the gentleman.

Mr. BURTON of California. Mr. Speaker, will the gentleman yield?

Mr. ERLBORN. I cannot yield at this time.

Mr. BURTON of California. It would be a little easier if those of us on this side of the aisle could get a copy of the gentleman's objections.

Mr. ERLBORN. I am sorry, I do not have additional copies.

Mr. Speaker, section 401, part B, of the conference report refers to total disability due to pneumoconiosis from working in coal mines as a disease that would come under the terms of this measure. The term "pneumoconiosis" is defined as a chronic dust disease of the lung. Both the House and Senate bills make only complicated pneumoconiosis as the basis for payments.

The SPEAKER. Will the gentleman state again the section of the report to which he makes reference?

Mr. ERLBORN. Section 401 of the conference report. All of title IV of the conference report, section 401 and the other sections in title IV.

Mr. Speaker, there was no disagreement between the House and the Senate as to complicated pneumoconiosis being the sole basis that is compensable under both the House and the Senate versions of the bill. This matter was not in disagreement. But in the report of the conference, simple pneumoconiosis was made compensable. This not only violates the provision that matters in disagreement cannot be amended, but it brings in coverage for an additional disease that was not contemplated, or stage of the disease that was not contemplated.

25. WHEAT. Sen. Dole inserted a newspaper article which reports that the 1967-68 wheat acreage allotment was the lowest in history and quotes the executive vice president of the National Wheat Growers Association as having said "that our dryland wheat producers are going broke." p. S17385
26. FARM PROGRAM. Sen. Dole inserted a newspaper article which examines "the aims and the details of the proposals that have been discussed with the House Agriculture Committee" and quotes Department spokesmen. pp. S17387-88

SENATE - December 19, 1969

27. APPROPRIATIONS. Agreed to conference report on H. R. 14794, Department of Transportation Appropriations for fiscal year 1970. This bill will now be sent to the President. p. S17323
- Agreed to conference report on H. R. 14751, Military Construction appropriations for fiscal year 1970. This bill will now be sent to the President. p. S17310
28. FOREIGN AID. Agreed to the conference report on H. R. 14580, the foreign aid program authorizations. This bill will now be sent to the President. pp. S17301-02
29. MIGRANT HEALTH. Discharged H. R. 14733, the proposed Migrant Health Act, from committee and passed the bill with an amendment in the nature of a substitute to include language of S. 2660. p. S17320
30. MANPOWER DEVELOPMENT. Sen. Boggs submitted a proposed amendment to S. 2838, the proposed manpower training act of 1969, to insure that the Federal Government can and will provide financial support to the opportunities industrialization centers. p. S17255

SENATE - December 20, 1969

31. APPROPRIATIONS. Tabled the conference report on H. R. 15149, the Foreign aid appropriations bill for fiscal year 1970; further conference with House requested and conferees appointed. pp. S17463-477
32. ENVIRONMENT. Agreed to the conference report on S. 1075, to provide for studies and research in connection with national policy on environmental quality. pp. S17450-17462
33. SUPERGRADES. Agreed to House amendment on S. 2325, to authorize the Civil Service Commission to establish additional supergrade positions. This bill will now be sent to the President. p. S17407
34. CORPORATION FARMING. The Select Committee on Small Business submitted a report entitled "Impact of Corporation Farming on Small Business," S. Rept. 91-628. p. S17408

13. PESTICIDES. Rep. Monagan inserted his remarks on pesticide control.
p. H12810
14. BOAT SAFETY. Rep. Monagan inserted the "Sportsmen's Corner" column commenting
on his boating safety bill. pp. H12810-1

HOUSE - December 20, 1969

15. SUPPLEMENTAL APPROPRIATIONS. Agreed to the conference report on H. R. 15209,
the supplemental appropriation bill, 1970 (H. Rept. 91-780). This bill
contains an item of \$3.7 million for Flood Prevention, Soil Conservation
Service, to cover damage caused by Hurricane Camille. pp. H12854-5
16. APPROPRIATIONS. Received the conference report on H. R. 13111, Labor, HEW
appropriation bill, 1970 (H. Rept. 91-781). pp. H12883-6
Agreed, 181-174, to the conference report on H. R. 15149, the foreign aid
appropriation bill, 1970. pp. H12840-52
17. POVERTY. The Senate agreed, 54-21, and the House agreed, 243-94, to
report on S. 3016, to provide for the continuation of programs authorized
under the Economic Opportunity Act of 1964, and to authorize funding of such
programs (pp. S17435-49, H12855-63). This bill will now be sent to the
President.
18. ENVIRONMENT. Rep. Hamilton spoke in support of legislation to restrain the
destruction and fouling of our environment. pp. H12863-73
19. LEGISLATIVE PROGRAM. The "Daily Digest" states that on Mon. the House will
consider conference reports on Labor-HEW appropriation bill and the tax
reform bill. p. D1241
20. ADJOURNED until Mon., Dec. 22, 1969. p. H12887

SENATE - December 18, 1969

21. FARM INCOME. Sen. Nelson submitted a proposed amendment S. 3068, to improve
farm income; the proposed amendment would prevent use of farm operations as
a tax shelter by individuals whose primary ~~source~~ of income is not from
farming. p. S17333
22. FARM COMMITTEES. Sen. Eagleton inserted the address of Sen. McGovern before
the national convention of the Association of Farmer-Elected Committeemen,
"American Agriculture in a Hungry World." pp. S17346-48
23. CONSERVATION. Sen. Dole noted the triumph of soil and water conservation in
Kansas and inserted a newspaper article. p. S. 17356
24. FOOD STAMP. Sen. Dole commented on the Secretary's announcement regarding the
substantial expansion of the Food Stamp program, stating that the action
"will put more food on the table of needy Americans." p. S17364

Mr. NELSON. Mr. President, I move to lay the point of order raised by the Senator from Colorado on the table.

The PRESIDING OFFICER. I might add that the Parliamentarian has advised me that this question is debatable at this stage.

Mr. NELSON. I move to lay the point of order on the table.

Mr. DOMINICK. Mr. President, a parliamentary inquiry.

The PRESIDING OFFICER. The Senator will state it.

Mr. DOMINICK. Is that motion in order?

The PRESIDING OFFICER. The motion is in order, and is not debatable.

Mr. DOMINICK. I ask for the yeas and nays.

The yeas and nays were ordered.

The PRESIDING OFFICER. The question is on agreeing to the motion of the Senator from Wisconsin (Mr. NELSON) to lay on the table the point of order raised by the Senator from Colorado (Mr. DOMINICK). On this question, the yeas and nays have been ordered, and the clerk will call the roll.

The bill clerk called the roll.

Mr. KENNEDY. I announce that the Senator from New Mexico (Mr. ANDERSON), the Senator from Mississippi (Mr. EASTLAND), the Senator from Alaska (Mr. GRAVEL), the Senator from South Carolina (Mr. HOLLINGS), the Senator from Hawaii (Mr. INOUE), the Senator from Louisiana (Mr. LONG), the Senator from Montana (Mr. METCALF), the Senator from Rhode Island (Mr. PASTORE), the Senator from Georgia (Mr. RUSSELL), the Senator from Missouri (Mr. SYMINGTON), the Senator from Maryland (Mr. TYDINGS) and the Senator from Ohio (Mr. YOUNG), are necessarily absent.

I further announce that, if present and voting, the Senator from Montana (Mr. METCALF) and the Senator from Rhode Island (Mr. PASTORE), would each vote "yea."

Mr. GRIFFIN. I announce that the Senator from New Jersey (Mr. CASE), the Senator from Arizona (Mr. GOLDWATER), the Senator from California (Mr. MURPHY), the Senators from Illinois (Mr. PERCY and Mr. SMITH), the Senator from Kansas (Mr. PEARSON), the Senator from Alaska (Mr. STEVENS), the Senator from Texas (Mr. TOWER), and the Senator from Delaware (Mr. WILLIAMS) are necessarily absent.

The Senator from Kentucky (Mr. COOPER) is absent because of illness in his family.

The Senator from South Dakota (Mr. MUNDT) is absent because of illness.

If present and voting, the Senator from California (Mr. MURPHY), the Senator from Illinois (Mr. SMITH), and the Senator from Texas (Mr. TOWER) would each vote "nay."

Mr. DODD. Mr. President, how am I recorded?

The PRESIDING OFFICER. The Senator from Connecticut is recorded in the affirmative.

Mr. BAKER. Mr. President, am I recorded?

The PRESIDING OFFICER. The Senator from Tennessee is recorded.

Mr. NELSON. Mr. President, I ask for the regular order.

Mr. President, I withdraw the request for regular order.

Mr. GRIFFIN. Mr. President, I ask for the regular order.

The PRESIDING OFFICER. The Chair is waiting for the vote count. That is the regular order.

The result was announced—yeas 39, nays 38, as follows:

[No. 268 Leg.]

YEAS—39

| | | |
|-----------|-----------|----------------|
| Aiken | Hart | McIntyre |
| Bayh | Hartke | Mondale |
| Brooke | Hatfield | Montoya |
| Burdick | Hughes | Moss |
| Cannon | Jackson | Muskie |
| Church | Javits | Nelson |
| Cranston | Kennedy | Pell |
| Dodd | Magnuson | Proxmire |
| Eagleton | Mansfield | Randolph |
| Fulbright | Mathias | Ribicoff |
| Goodell | McCarthy | Schweiker |
| Gore | McGee | Williams, N.J. |
| Harris | McGovern | Yarborough |

NAYS—38

| | | |
|--------------|---------------|----------------|
| Allen | Dominick | Miller |
| Allott | Ellender | Packwood |
| Baker | Ervin | Prouty |
| Bellmon | Fannin | Saxbe |
| Bennett | Fong | Scott |
| Bible | Griffin | Smith, Maine |
| Boggs | Gurney | Sparkman |
| Byrd, Va. | Hansen | Spong |
| Byrd, W. Va. | Holland | Stennis |
| Cook | Hruska | Talmadge |
| Cotton | Jordan, N.C. | Thurmond |
| Curtis | Jordan, Idaho | Young, N. Dak. |
| Dole | McClellan | |

NOT VOTING—23

| | | |
|-----------|---------|----------------|
| Anderson | Long | Smith, Ill. |
| Case | Metcalf | Stevens |
| Cooper | Mundt | Symington |
| Eastland | Murphy | Tower |
| Goldwater | Pastore | Tydings |
| Gravel | Pearson | Williams, Del. |
| Hollings | Percy | Young, Ohio |
| Inouye | Russell | |

So the motion to lay on the table was agreed to.

The PRESIDING OFFICER. The question recurs on the adoption of the conference report. On this question, the yeas and nays have been ordered, and the clerk will call the roll.

The bill clerk called the roll.

Mr. KENNEDY. I announce that the Senator from New Mexico (Mr. ANDERSON), the Senator from Mississippi (Mr. EASTLAND), the Senator from Alaska (Mr. GRAVEL), the Senator from South Carolina (Mr. HOLLINGS), the Senator from Hawaii (Mr. INOUE), the Senator from Louisiana (Mr. LONG), the Senator from Wyoming (Mr. MCGEE), the Senator from Montana (Mr. METCALF), the Senator from Rhode Island (Mr. PASTORE), the Senator from Georgia (Mr. RUSSELL), the Senator from Missouri (Mr. SYMINGTON), the Senator from Maryland (Mr. TYDINGS), and the Senator from Ohio (Mr. YOUNG), are necessarily absent.

I further announce that, if present and voting, the Senator from Montana (Mr. METCALF) and the Senator from Rhode Island (Mr. PASTORE), would each vote "yea."

Mr. GRIFFIN. I announce that the Senator from Massachusetts (Mr. BROOKE), the Senator from New Jersey (Mr. CASE), the Senator from Arizona (Mr. GOLDWATER), the Senator from California (Mr. MURPHY), the Senators

from Illinois (Mr. PERCY and Mr. SMITH), the Senator from Kansas (Mr. PEARSON), the Senator from Alaska (Mr. STEVENS), the Senator from Texas (Mr. TOWER), and the Senator from Delaware (Mr. WILLIAMS) are necessarily absent.

The Senator from Kentucky (Mr. COOPER) is absent because of illness in his family.

The Senator from South Dakota (Mr. MUNDT) is absent because of illness.

If present and voting, the Senator from Texas (Mr. TOWER) would vote "nay."

On this vote, the Senator from Massachusetts (Mr. BROOKE) is paired with the Senator from California (Mr. MURPHY). If present and voting, the Senator from Massachusetts would vote "nay" and the Senator from California would vote "yea."

On this vote, the Senator from New Jersey (Mr. CASE) is paired with the Senator from Illinois (Mr. SMITH). If present and voting, the Senator from New Jersey would vote "nay" and the Senator from Illinois would vote "yea."

The result was announced—yeas 54, nays 21, as follows:

[No. 269 Leg.]

YEAS—54

| | | |
|-----------|---------------|----------------|
| Aiken | Griffin | Montoya |
| Allott | Harris | Moss |
| Baker | Hart | Muskie |
| Bayh | Hartke | Nelson |
| Bible | Hatfield | Packwood |
| Boggs | Hughes | Pell |
| Burdick | Jackson | Prouty |
| Cannon | Javits | Proxmire |
| Church | Jordan, N.C. | Randolph |
| Cook | Jordan, Idaho | Ribicoff |
| Cranston | Kennedy | Saxbe |
| Dodd | Magnuson | Schweiker |
| Eagleton | Mansfield | Scott |
| Ellender | Mathias | Smith, Maine |
| Fong | McCarthy | Spong |
| Fulbright | McGovern | Talmadge |
| Goodell | McIntyre | Williams, N.J. |
| Gore | Mondale | Yarborough |

NAYS—21

| | | |
|--------------|----------|----------------|
| Allen | Dole | Hruska |
| Bellmon | Dominick | McClellan |
| Bennett | Ervin | Miller |
| Byrd, Va. | Fannin | Sparkman |
| Byrd, W. Va. | Gurney | Stennis |
| Cotton | Hansen | Thurmond |
| Curtis | Holland | Young, N. Dak. |

NOT VOTING—25

| | | |
|-----------|---------|----------------|
| Anderson | Long | Smith, Ill. |
| Brooke | McGee | Stevens |
| Case | Metcalf | Symington |
| Cooper | Mundt | Tower |
| Eastland | Murphy | Tydings |
| Goldwater | Pastore | Williams, Del. |
| Gravel | Pearson | Young, Ohio |
| Hollings | Percy | |
| Inouye | Russell | |

So the conference report was agreed to.

Mr. NELSON. Mr. President, I move to reconsider the vote by which the conference report was agreed to.

Mr. MANSFIELD. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

SENATE CONCURRENT RESOLUTION 51—AUTHORITY FOR SECRETARY OF THE SENATE TO MAKE A TECHNICAL CORRECTION IN ENROLLMENT OF S. 3016

Mr. NELSON. Mr. President, I submit a concurrent resolution, and ask unanimous consent for its immediate consideration.

The PRESIDING OFFICER. The concurrent resolution will be stated by title.

The ASSISTANT LEGISLATIVE CLERK. A concurrent resolution to authorize the Secretary of the Senate to make a technical correction in the enrollment of the bill (S. 3016) to provide for the continuation of programs authorized under the Economic Opportunity Act of 1964, to authorize advance funding of such programs, and for other purposes.

The PRESIDING OFFICER. Is there objection to the present consideration of the concurrent resolution?

There being no objection the Senate proceeded to consider the concurrent resolution.

Mr. NELSON. Mr. President, the printer made a mistake and designated one section as section 620(d), when it should be designated as section 602(d). That is what the concurrent resolution is about.

The PRESIDING OFFICER. The question is on agreeing to the concurrent resolution.

The concurrent resolution (S. Con. Res. 51) was agreed to, as follows:

Resolved by the Senate (the House of Representatives concurring), That the Secretary of the Senate, in the enrollment of the bill (S. 3016) to provide for the continuation of programs authorized under the Economic Opportunity Act of 1964, to authorize advance funding of such programs, and for other purposes, is hereby authorized and directed to make the following correction:

In section 114 strike out "section 620(d)" and insert "section 602 (d)".

CORRECTION IN ENROLLMENT

Mr. MANSFIELD subsequently said: Mr. President, I ask unanimous consent that the vote by which the Senate earlier today agreed to Senate Concurrent Resolution 51 be reconsidered.

The PRESIDING OFFICER. Is there objection? There being no objection, the vote by which Senate Concurrent Resolution 51 is reconsidered. The resolution is before the Senate.

Mr. MANSFIELD. Mr. President, I send to the desk an amendment to the concurrent resolution and ask for its immediate consideration.

The PRESIDING OFFICER. The amendment will be stated.

The legislative clerk read the amendment as follows:

SEC. 2. That the Senate recede and concur in the House amendment to the title of S. 3016.

Mr. MANSFIELD. Mr. President, it is my understanding that this has to do only with the title and does not interfere in any way with the content of that which was discussed by the Senate.

The PRESIDING OFFICER. Is there objection to the amendment offered by the Senator from Montana? The Chair hears none, and the amendment is agreed to.

The question now is on agreeing to the concurrent resolution, as amended.

Senate Concurrent Resolution 51, as amended, was agreed to as follows:

S. CON. RES. 51

Resolved by the Senate (the House of Representatives concurring), That the Secretary of the Senate, in the enrollment of

the bill (S. 3016) to provide for the continuation of programs authorized under the Economic Opportunity Act of 1964, to authorize advance funding of such programs, and for other purposes, is hereby authorized and directed to make the following correction:

In section 114 strike out "section 620 (d)" and insert "section 602 (d)".

Sec. 2. That the Senate recede and concur in the House amendment to the title of S. 3016.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969—CONFERENCE REPORT

Mr. JACKSON. Mr. President, I submit a report of the committee of conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075) to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers. I ask unanimous consent for the present consideration of the report.

The PRESIDING OFFICER. The report will be read for the information of the Senate.

The assistant legislative clerk read the report.

(For conference report, see House proceedings of December 17, 1969, pp. H12633-H12634, CONGRESSIONAL RECORD.)

The PRESIDING OFFICER. Is there objection to the present consideration of the report?

There being no objection, the Senate proceeded to consider the report.

Mr. JACKSON. Mr. President, the House amended the bill as passed by the Senate by striking all after the enacting clause and substituting the text of a new bill. The House bill included provisions similar to those of title III of the Senate bill which would establish a Council on Environmental Quality. It also included a short policy statement, but it omitted most of the provisions of titles I and II of the Senate bill.

The conference report represents a sound compromise worked out in three meetings of the conferees. It is a strong measure which will be an important step toward evolving a sound program of environmental management for the Nation.

S. 1075, the National Environmental Policy Act of 1969, was passed by the Senate on July 10, 1969 had three major titles. Title I provides a "declaration of national environmental policy" which set national goals for environmental management and established supplementary operating procedures for all Federal agencies to follow in planning and decisionmaking which have an impact on man's environment. Title II authorized certain research and data gathering functions. Title III authorized the creation of a three-member Board of Environmental Quality Advisers in the Executive Office of the President.

S. 1075 was amended and passed by the House of Representatives on September 23, 1969. As amended and passed by the House, S. 1075 consisted of one title which authorized the creation of

a five-member Council on Environmental Quality.

On October 8, 1969, the Senate disagreed to the amendments of the House of Representatives, agreed to the House's request for a conference, and authorized the Chair to appoint the conferees on the part of the Senate. Prior to the Senate's agreeing to the House's request for a conference on S. 1075, and in connection with debate on S. 7, the Water Quality Improvement Act of 1969, there was a discussion by members of the Senate Public Works Committee and the Senate Interior and Insular Affairs Committee on the relationship between title II of S. 7 and the provisions of S. 1075 as passed by the Senate on July 10, 1969. As a result of that discussion, it was agreed that the Senate conferees on S. 7 and on S. 1075 would seek certain agreed upon changes in each measure in conference committee with the House of Representatives.

The purpose of the agreed upon changes in S. 7 and in S. 1075, which to some extent, dealt with similar subject matter are set out in the October 8, 1969, CONGRESSIONAL RECORD at pages S. 12108 through S. 12147.

It was understood during the discussion of this matter on October 8 that the Senate conferees on S. 1075 would make every possible effort to gain House agreement to the text of S. 1075 as passed by the Senate as well as to the agreed-upon changes discussed on the floor. This understanding was referred to in a motion offered by the chairman of the Interior Committee that the conferees on S. 1075 be instructed to insist upon the provisions of S. 1075 as passed by the Senate and as modified by the agreed-upon changes discussed in connection with debate on S. 7. As was stated on the floor in connection with this motion:

It is also understood, however, that the purpose of a conference committee is to compromise and adjust differences between the House and Senate passed bills, and that the final product of the conference committee will probably have to involve some changes in the language of both the House and Senate passed bills on S. 1075. It is, however, the hope and the intent of all concerned on the Senate side that these changes will not in any way affect the substance of what has been agreed upon. (October 8, 1969, CONGRESSIONAL RECORD page S12145).

Mr. President, S. 1075 as agreed upon by the conference committee is very close to the bill as passed by the Senate. Most of the substantive provisions of the Senate passed bill have been retained. In addition, most of the substantive provisions of the agreed-upon changes which were discussed on October 8 were adopted in the report of the conference committee.

Mr. President, I might point out that during the conference, the junior Senator from Washington had an opportunity to work with the junior Senator from Maine, who is the chairman of the Subcommittee on Public Works which is directly involved in the environmental area. It was agreed that certain statements should be adjusted in the statement of the Senate managers and this has been done. The junior Senator from

Maine will comment on that in a moment.

The changes the conference committee made in S. 1075 as passed by the Senate and as agreed upon are reflected in the section-by-section analysis of the conference report accompanying the statement of the managers on the part of the Senate. The changes are also discussed in a separate attachment, titled "Major Changes in S. 1075 as Passed by the Senate."

Mr. President, I ask unanimous consent that the major changes in S. 1075, as passed by the Senate, be printed at the conclusion of my remarks, together with a section-by-section analysis of the bill.

The PRESIDING OFFICER (Mr. Dodd in the chair). Without objection, it is so ordered.

(See exhibits 1 and 2.)

Mr. JACKSON. Mr. President, it is my view that S. 1075 as passed by the Senate and now, as agreed upon by the conference committee, is the most important and far-reaching environmental and conservation measure ever enacted by the Congress.

Mr. President, it is my view that S. 1075 as passed by the Senate and now, as agreed upon by the conference committee, is the most important and far-reaching conservation-environmental measure ever acted upon by the Congress.

This measure is important because it provides four new approaches to dealing with environmental problems on a preventive and an anticipatory basis. As Members of the Senate are aware, too much of our past history of dealing with environmental problems has been focused on efforts to deal with "crises," and to "reclaim" our resources from past abuses.

First. The first new approach is the statement of national policy and the declaration of national goals found in section 101.

In many respects, the only precedent and parallel to what is proposed in S. 1075 is in the Full Employment Act of 1946, which declared an historic national policy on management of the economy and established the Council of Economic Advisers. It is my view that S. 1075 will provide an equally important national policy for the management of America's future environment.

A statement of environmental policy is more than a statement of what we believe as a people and as a Nation. It establishes priorities and gives expression to our national goals and aspirations. It provides a statutory foundation to which administrators may refer to it for guidance in making decisions which find environmental values in conflict with other values.

What is involved is a congressional declaration that we do not intend, as a government or as a people, to initiate actions which endanger the continued existence or the health of mankind: That we will not intentionally initiate actions which will do irreparable damage to the air, land, and water which support life on earth.

An environmental policy is a policy for people. Its primary concern is with man and his future. The basic principle of the policy is that we must strive in all that we do, to achieve a standard of excellence in man's relationships to his physical surroundings. If there are to be departures from this standard of excellence they should be exceptions to the rule and the policy. And as exceptions, they will have to be justified in the light of public scrutiny as required by section 102.

Second. To insure that the policies and goals defined in this act are infused into the ongoing programs and actions of the Federal Government, the act also establishes some important "action-forcing" procedures. Section 102 authorizes and directs all Federal agencies, to the fullest extent possible, to administer their existing laws, regulations, and policies in conformance with the policies set forth in this act. It also directs all agencies to assure consideration of the environmental impact of their actions in decision-making. It requires agencies which propose actions to consult with appropriate Federal and State agencies having jurisdiction or expertise in environmental matters and to include any comments made by those agencies which outline the environmental considerations involved with such proposals.

Taken together, the provisions of section 102 directs any Federal agency which takes action that it must take into account environmental management and environmental quality considerations.

Third. The act in title II establishes a Council on Environment Quality in the Executive Office of the President. This Council will provide an institution and an organizational focus at the highest level for the concerns of environmental management. It will provide the President with objective advice and a continuing and comprehensive overview of the fragmented and bewildering Federal jurisdiction involved in some way with the environment. The Council's activities in this area will be complemented by the support of the Office of Environmental Quality proposed in the Water Quality Improvement Act of 1969.

The Council also will establish a system for monitoring environmental indicators, and maintaining records on the status of the environment. The Council will insure that there will be complete and reliable data on environmental indicators available for the anticipation of emerging problems and trends. This data will provide a basis for sound management.

Fourth. Finally in section 201, S. 1075 requires the submission by the President to the Congress and to the American people of an Annual Environmental Quality Report. The purpose of this report is to provide a statement of progress, to establish some baselines, and to tell us how well—or as some suspect how bad—we are doing in managing the environment—the Nation's life support system.

It is the clear intent of the Senate conferees that the annual report should be referred in the Senate to all committees which have exercised jurisdiction over any part of the subject matter con-

tained therein. Absent specific language on the reference of the report, the report would be referred pursuant to the Senate rules. It is the committees' understanding that under the rules all relevant committees may be referred copies of the annual report.

This was the intent of the Senate when S. 1075 was passed. In the section-by-section analysis of section 303 of S. 1075 at page 26 of the Committee Report No. 91-296 it is expressly stated that:

It is anticipated that the annual report and the recommendations made by the President would be a vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress.

The Senate conferees intend that under the language of the conference report, the annual report would be referred to all appropriate Committees of the Senate.

Mr. President, one of the provisions of the Senate passed bill which the conference committee agreed to change requires special comment. Section 101(b) of S. 1075 provided that:

(b) The Congress recognizes that *each person has a fundamental and inalienable right to a healthful environment* and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

The conference committee changed this provision so that it now reads:

(b) The Congress recognizes that *each person should enjoy a healthful environment* and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

I opposed this change in conference committee because it is my belief that the language of the Senate passed bill reaffirmed what is already the law of this land; namely, that every person does have a fundamental and an inalienable right to a healthful environment. If this is not the law of this land, if an individual in this great country of ours cannot at the present time protect his right and the right of his family to a healthful environment, then it is my view that some fundamental changes are in order.

To dispell any doubts about the existence of this right, I intend to introduce an amendment to the National Environmental Policy Act of 1969 as soon as it is signed by the President. This amendment will propose a detailed congressional declaration of a statutory bill of environmental right.

Another provision which should be brought to the attention of the Senate is section 102(e) of the conference report. This section directs all Federal agencies to:

Recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment.

This provision was added to the bill as an amendment I offered in the Senate Interior Committee in June. The purpose of the provision is to give statutory authority to all Federal agencies to par-

ticipate in the development of a positive, forward looking program of international cooperation in dealing with the environmental problems all nations and all people share. Cooperation in dealing with these problems is necessary, for the problems are urgent and serious. Cooperation is also possible because the problems of the environment do not, for the most part, raise questions related to ideology, national security and the balance of world power.

We must seek solutions to environmental problems on an international level because they are international in origin and scope. The earth is a common resource, and cooperative effort will be necessary to protect it. Perhaps also, in the common cause of environmental management, the nations of the earth will find a little more sympathy and understanding for one another.

I am hopeful that the United Nations Conference in 1972 on "the Problems of the Human Environment" will unite leaders of nations throughout the world in the effort of achieving solutions to international environmental problems. I am, however, concerned that at the present time the Federal Government is not doing enough to plan and prepare for the 1972 U.N. Conference. Section 102(E) of the conference report on S. 1075 provides the Federal agencies and the administration with the authority to make a positive and a far-reaching contribution to this international effort to deal with this critical and growing international problem. I am hopeful that this authority will be utilized.

Mr. President, there is a new kind of revolutionary movement underway in this country. This movement is concerned with the integrity of man's life support system—the human environment. The stage for this movement is shifting from what had once been the exclusive province of a few conservation organizations to the campus, to the urban ghettos, and to the suburbs.

In recent months, the Nation's youth, in high schools, colleges, and universities across the country, have been taking up the banner of environmental awareness and have been seeking measures designed to control technology, and to develop new environmental policies which reflect the full range of diverse values and amenities which man seeks from his environment.

S. 1075 is a response by the Congress to the concerns the Nation's youth are expressing. It makes clear that Congress is responsive to the problems of the future. While the National Environmental Policy Act of 1969 is not a panacea, it is a starting point. A great deal more, however, remains to be done by the Federal Government, both in the form of legislation and executive action, if mankind and human dignity are not to be ground down in the years ahead by the expansive and impersonal technology modern science has created.

Mr. President, the inadequacy of present knowledge, policies, and institutions for environmental management is reflected in our Nation's history, in our

national attitudes, and in our contemporary life. It touches every aspect of man's existence. It threatens, it degrades, and destroys the quality life which all men seek.

We see increasing evidence of this inadequacy all around us: haphazard urban and suburban growth; crowding, congestion, and conditions within our central cities which result in civil unrest and detract from man's social and psychological well-being; the loss of valuable open spaces; inconsistent and often, incoherent rural and urban land-use policies; critical air and water pollution problems; diminishing recreational opportunity; continuing soil erosion; the degradation of unique eco-systems; needless deforestation; the decline and extinction of fish and wildlife species; faltering and poorly designed transportation systems; poor architectural design and ugliness in public and private structures; rising levels of noise; the continued proliferation of pesticides and chemicals without adequate consideration of the consequences; radiation hazards; thermal pollution; an increasingly ugly landscape cluttered with billboards, powerlines and junkyards; growing scarcity of essential resources; and many, many other environmental quality problems.

A primary function of Government is to improve the institutional policy and the legal framework for dealing with these problems. S. 1075 as agreed to by the conference committee is an important step toward this end.

There should be no doubt of our capability to cope with environmental problems. The historic success of Apollo 11 last month demonstrates that if we—as a nation and as a people—commit our talents and resources to a goal we can do the impossible.

If we can send men to the moon, we can clean our rivers and lakes, and if we can transmit television pictures from another planet, we can monitor and improve the quality of the air our children breathe and the open spaces they play in.

The needs and the aspirations of future generations make it our duty to build a sound and operable foundation of national objectives for the management of our resources for our children and their children. The future of succeeding generations in this country is in our hands. It will be shaped by the choices we make. We will not, and they cannot escape the consequences of our choices.

Mr. President, I believe that the bill agreed upon by the conferees is a sound measure. This measure will be an important step toward building a capability within the Federal Government to cope with present and impending environmental problems.

Problems of environmental management may well prove to be the most difficult and the most important problems we have ever faced. I urge the Senate to prepare the Federal establishment to face them. I urge the approval of the conference report.

EXHIBIT 1

MAJOR CHANGES IN S. 1075 AS PASSED BY THE SENATE

TITLE

The title of S. 1075 as passed by the Senate was amended to reflect the major changes in the bill agreed to by the Conference Committee. These were the deletion of Title II and changing the name of the "Board" to "Council."

Section 1

No change was made in the "short title."

Section 2

The statement of "purpose" is unchanged except that it was agreed that the new institution created in the Executive Office of the President would be designated as the "Council on Environmental Quality" rather than a "Board of Environmental Quality Advisors" as in the Senate passed bill. All other references to the "Board" were also changed to "Council."

TITLE I

Section 101(a)

Section 101(a) of the Senate passed bill was divided into subsection 101(a) and (b) and subsection (b) was redesignated as subsection (c).

Section 101(a) of the Conference Report combines language from Section 1 of the House passed bill and from Section 101(a) of the Senate passed bill. As revised, this section declares that it is the continuing responsibility of the Federal government, in cooperation with state and local government and others to use all practical means to promote the general welfare and insure that man and nature exist in productive harmony.

Section 101(b)

The new Section 101(b) with appropriate transitional language has been unchanged. This section declares national environmental goals and was taken from Section 101(a) of the Senate passed bill.

Section 101(c)

This language was found in Section 101(b) of the Senate passed bill. The Conference Committee amended the language which read "each person has a fundamental and inalienable right to a healthful environment". Section 101(c) now reads "each person should enjoy a healthful environment".

Section 102

The language of the first paragraph of Section 102 of the Senate passed bill was modified by the Conference Committee so that the phrase "to the fullest extent possible" modifies both directives. The directives were also given number designations.

Section 102(a)

In view of the changes in the first paragraph of Section 102, the phrase "to the fullest extent possible" was deleted from Section 102(a).

Section 102(b)

This section was modified by the adoption of language requiring all agencies to consult with the Council. In part, this was a language change which was discussed and agreed to on October 8, on the Senate floor.

Section 102(c)

This section, with two minor changes, is the language of Section 102(c) of S. 1075 as passed by the Senate and as discussed and agreed to on the Senate floor on October 8.

Section 102(d)

This section is identical to Section 102(d) as passed by the Senate and as agreed to on the Senate floor on October 8.

Section 102(e)

This section is the same as Section 102(e) of S. 1075 as passed by the Senate except

that the phrase "where consistent with the foreign policy of the United States" was added.

Section 102(f)

This language is identical to Section 201 (d) of title II of the Senate passed bill. Title II of S. 1075 was deleted by the Conference Committee, but this and other provisions from this title were incorporated into title I and II of the bill reported by the Conferees.

Section 102(g)

This language is identical to Section 201 (e) of title II of the Senate passed bill.

Section 102(h)

This language is a modification of language found in Section 201(g) of title II of the Senate passed bill.

Section 102 in general

The conference substitute provides that the phrase "to the fullest extent possible" applies with respect to those actions which Congress authorizes and directs to be done under both clauses (1) and (2) of Section 102 (in the Senate passed bill, the phrase applied only to the directive in clause (1)). In accepting this change to section 102 (and also to the provisions of Section 103), the conferees agreed to delete section 9 of the House amendment from the conference substitute. Section 9 of the House amendment provided that "nothing in this Act shall increase, decrease or change any responsibility or authority of any Federal official or agency created by other provision of law." In making this change in favor of the less restrictive provision "to the fullest extent possible" the Senate conferees are of the view that the new language does not in any way limit the Congressional authorization and directive to all agencies of the Federal Government set out in subparagraphs (A) through (H) of clause (2) of Section 102. The purpose of the new language is to make it clear that each agency of the Federal Government shall comply with the directives set out in such subparagraphs (A) through (H) unless the existing law applicable to such agency's operations does not make compliance possible. If this is found to be the case, then compliance with the particular directive is not required but the provisions of Section 103 would apply. However, as to other aspects of the activities of that agency, compliance with the provisions of this bill is expected. Thus, it is the intent of the conferees that the provision "to the fullest extent possible" shall not be used by any Federal agency as a means to avoiding compliance with the directives set out in Section 102. Rather, the language in Section 102 is intended to assure that all agencies of the Federal Government shall comply with the directives set out in said section "to the fullest extent possible" under their statutory authorizations and that no agency shall seek to construe its existing statutory authorizations in a manner designed to avoid compliance.

Many existing agencies such as the National Park Service, the Federal Water Pollution Control Administration and the National Air Pollution Control Administration already have important responsibilities in the area of environmental control. The provision of Section 102 (as well as 103) are not designed to result in any change in the manner in which they carry out their environmental protection authority. This provision is, however, clearly designed to assure consideration of environmental matters by all agencies in their planning and decision making—especially those agencies who now have little or no legislative authority to take environmental considerations into account.

Section 103

This section is based upon a provision of the Senate passed bill (Section 102(f)) not in the House amendment. This section as

agreed to by the conferees, provides that all agencies of the Federal Government shall review their "present statutory authority, administrative regulations, and current policies and procedures to determine whether there are any deficiencies and inconsistencies therein which prohibit full compliance with the purpose and provisions" of the bill. If an agency finds such deficiencies or inconsistencies, it is required under this section to propose to the President not later than July 1, 1971 such measures as may be necessary to bring its authority and policies into conformity with the purposes and procedures of the bill. Section 103 thereby provides a mechanism which shall be utilized by all Federal agencies (1) to ascertain whether there is any provision of their statutory authority which precludes full compliance with any of the provisions of the bill, and (2) if any are found, to recommend changes in their statutory authority to the President, and, if recommended, to the appropriate Congressional Committees having jurisdiction. In conducting the review noted above, it is the understanding of the conferees that an agency shall not construe its existing authority in a manner which avoids full compliance with this Act. Rather, the intent of the conferees is that all Federal agencies shall comply with the provisions of Section 102.

It is not the intent of the Senate conferees that the review required by Section 103 would require existing environmental control agencies such as the Federal Water Pollution Control Administration and the National Air Pollution Control Administration to review their statutory authority and regulatory policies which are related to maintaining and enhancing the quality of the environment. This Section is aimed at those agencies which have little or no authority to consider environmental values.

Section 104

This language, with a minor reference change, is identical to language discussed and agreed to on the Senate floor on October 8 as a proposed Section 103 to S. 1075 when a conference with the House on S. 1075 was agreed to.

Section 105

This language is a modification of Section 103 of S. 1075 as passed by the Senate. As modified this section provides that the provisions of this Act are "supplementary to those set forth in existing authorizations of Federal agencies." The effect of this section is to give recognition to the fact that the bill is in addition to, but does not modify or repeal existing law. This section does not, however, obviate the requirement that the Federal agencies whose activities may have an adverse effect on the quality of the environment conduct their activities in accordance with the provisions of this bill unless to do so would violate their existing statutory authorizations.

TITLE II

Title II of S. 1075 as passed by the Senate was deleted. This title had authorized certain research and data gathering functions, a small grant-in-aid program, and the creation of a new position of Deputy Director in the Office of Science and Technology. The most important provisions of title II relating to research and data gathering were retained by the Conference Committee in Section 102 of title I and in Sections 204 and 205 of title II of the Conference Report.

Title II of the language agreed upon by the Conference Committee is largely from the House amendment to S. 1075 with a number of important substantive changes and exceptions. The language of the House amendment paralleled very closely the language of title III of S. 1075 as passed by the Senate. Major changes between the two provisions as well as substantive changes adopted by the Conference Committee are noted below.

Section 201

This section requires the President to transmit to the Congress an annual Environmental Quality Report. With minor word changes, this language was taken from Section 2 of the House amendment to S. 1075. The parallel language from the Senate passed bill is found in Section 303 of S. 1075.

On October 8, when the Senate disagreed to the House amendment and requested a conference it was agreed that the Senate conferees would seek to have language placed in the Conference Report which would provide that the annual Environmental Quality Report would be referred in whole or in part to the Committees of each House of the Congress which have exercised jurisdiction over the subject matter therein. This language would have been a new Section 303(b) of the Senate passed bill. The Senate conferees made every possible effort to have this language made a part of the Conference Report. When agreement could not be reached, an effort was made to have language which applied only to reference of the Report in the Senate made a part of the Conference Report. Again, agreement was not reached.

It is the clear intent of the Senate conferees that the annual report should be referred in the Senate to all Committees which have exercised jurisdiction over any part of the subject matter contained therein. Absent specific language on the reference of the report, the report would be referred pursuant to the Senate rules. It is the Committee's understanding that under the rules all relevant Committees may be referred copies of the annual report.

This was the intent of the Senate when S. 1075 was passed. In the Section-by-Section analysis of Section 303 of S. 1075 at page 26 of the Committee Report No. 91-296 it is expressly stated that:

"It is anticipated that the annual report and the recommendations made by the President would be a vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress."

The Senate Conferees intend that under the language of the Conference Report, the annual report would be referred to all appropriate Committees of the Senate.

Section 202

Section 202 was drawn, in part, from Section 3 of the House amendment and, in part, from Section 301(a) of the Senate passed bill. The conferees agreed that the Council should consist of "three" members and should be subject to Senate confirmation as provided in S. 1075 as passed by the Senate.

Section 203

This section, with minor reference changes, is the same language found in Section 4 of the House amendment. It is almost identical to Section 304 of the Senate passed bill.

In connection with the Senate's request for a conference on S. 1075 on October 8, it was agreed that the Senate conferees would seek to have language incorporated into the Conference Report authorizing the Council to establish advisory committees and to convene a biennial forum on environmental quality problems. The Senate conferees sought to have specific language of this nature incorporated into the Conference Report, but no agreement was reached. In large measure this was because of the fact that the language of Section 203 of the Conference Report, which authorizes the Council to employ experts and consultants, is broad enough to allow for the establishment of advisory committees and the convening of forums on environmental problems.

Section 204

This section, with minor language and reference changes, was drawn from Section 5 of the House amendment. In addition, Sections 201(a) and (b) and Section 302(a) (1) from titles II and III of the Senate passed bill were

included by the Conference Committee as subsections 204 (5), (6) and (7).

Section 205

This section, with a couple of modifications, was drawn from Section 7 of the House amendment. Section 205(1) requires consultations with representatives of various groups and the Conference Committee added the Citizens Advisory Committee on Environmental Quality to those groups with which the Council should consult.

Section 205 (2) is designed to avoid duplication of expense and effort in connection with the Council's activities. The Conference Committee added new language, and language which the Senate had agreed to for Section 201 (a) in connection with the request for a conference on S. 1075. This language provides assurance that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

Section 206

This section sets forth the compensation of the Council members and is substantially the same as Section 301(b) of the Senate passed bill.

Section 207

The appropriation authorization language in this section was drawn from Section 10 of the House amendment. The appropriation authorization for fiscal year 1971 was, however, increased from \$500,000 to \$700,000.

EXHIBIT 2

SECTION-BY-SECTION ANALYSIS

Section 1

This section provides that this act may be cited as the National Environmental Policy Act of 1969.

Section 2

This section sets forth the purposes of the act. The purposes of the act are to declare a national environmental policy; to promote efforts to prevent environmental damage and to better the health and welfare of man; to enlarge and enrich man's understanding of the ecological systems and natural resources important to the Nation; and to establish in the Executive Office of the President a Council of Environmental Quality Advisers.

TITLE I

Section 101(a)

This section is a declaration by the Congress of a national environmental policy. The policy is based upon a recognition of man's impact upon the natural environment particularly the influences of population growth, urbanization, industrial expansion, resource exploitation, and technological development. The Congress further recognizes the importance to the welfare of man of restoring and maintaining the quality of the environment.

The continuing policy of the Federal Government is declared to be, in cooperation with State and local governments and concerned public and private organizations (such as professional and technical societies, conservation organizations, industry and labor organizations and resource development organizations), to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

Section 101(b)

The continuing policy and responsibility of the Federal Government is declared to be that, consistent with other essential considerations of national policy, the activities and resources of the Federal Government

shall be improved and coordinated to the end that the Nation may attain certain broad national goals in the management of the environment. The broad national goals are as follows:

(1) Fulfill the responsibilities of each generation as trustee of the environment for future generations. It is recognized in this statement that each generation has a responsibility to improve, enhance, and maintain the quality of the environment to the greatest extent possible for the continued benefit of future generations.

(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings. The Federal Government, in its planning and programs, shall strive to protect and improve the quality of each citizen's surroundings both in regard to the preservation of the natural environment as well as in the planning, design, and construction of manmade structures. Each individual should be assured of safe, healthful, and productive surroundings in which to live and work and should be afforded the maximum possible opportunity to derive physical, esthetic, and cultural satisfaction from his immediate surroundings and from the environment he shares with the rest of humanity.

(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences. The resources of the United States must be capable of supporting the larger populations and the increased demands upon limited resources which appear inevitable in the immediate future. To do so, it is essential that the widest and most efficient use of the environment be made to provide both the necessities and the amenities of life. In seeking intensified beneficial utilization of the earth's resources, the Federal Government must take care to avoid degradation and misuse of resources, risk to man's continued health and safety, and other undesirable and unintended consequences.

(4) Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible an environment which supports diversity and variety of individual choice. The pace of urbanization coupled with population growth and man's increasing ability to work unprecedented changes in the natural environment makes it clear that one essential goal in a national environmental policy is the preservation of important aspects of our national heritage. There are existing programs which are designed to achieve these goals, but many are single-purpose in nature. This subsection would make it clear that all agencies, in all of their activities, are to carry out their programs with a full appreciation of the importance of maintaining important aspects of our national heritage.

This subsection also emphasizes that an important aspect of national environmental policy is the maintenance of physical surroundings which provide present and future generations of American people with the widest possible opportunities for diversity and variety of experience and choice in cultural pursuits, in recreation endeavors, in esthetic appreciation and in living styles.

(5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities. This subsection recognizes that population increases underlie many of the inter-related social and environmental problems which are being experienced in America. If the Nation's present high standards of living are to be made available to all of our citizens and if the general and growing desire of our people for greater participation in the physical and material benefits, in the amenities, and in the esthetic enjoyment afforded by a quality environment are to be satisfied, the Federal Government should—

and it is hoped that State government and private enterprise will—strive to maintain levels and a distribution of population which will not exceed the environment's capability to provide such benefits.

(6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. In recent years a great deal of the emphasis of legislative and executive action regarding environmental matters has concentrated upon the protection and improvement of the quality of the Nation's renewable resources such as air and water. It is vital that these efforts be continued and intensified because they are among the most visible, pressing, and immediate concerns of environmental management.

It is also essential, however, that means be sought and utilized to improve the effectiveness of recycling depletable resources such as fiber, chemicals, and metallic minerals. Improved material standards of living for greater numbers of people will place increased demands upon limited raw material. Furthermore, the disposal of wastes from the non-consumptive single use of manufactured goods is among our most critical pollution problems. Emphasis must be placed upon seeking innovative solutions through technology, better management, and, if necessary, governmental regulation.

Section 101(c)

This subsection asserts congressional recognition that each person should enjoy a healthful environment. It is apparent that the guarantee of the continued enjoyment of any individual right is dependent upon individual health and safety. It is further apparent that deprivation of an individual's healthful environment will result in the deprivation of all of his rights.

The subsection also asserts congressional recognition of each individual's responsibility to contribute to the preservation and enhancement of the environment. The enjoyment of individual rights requires respect and protection of the rights of others. The cumulative influence of each individual upon the environment is of such great significance that every effort to preserve environmental quality must depend upon the strong support and participation of the public.

Section 102

The policies and goals set forth in section 101 can be implemented if they are incorporated into the ongoing activities of the Federal Government in carrying out its other responsibilities to the public. In some areas of Federal action there is no body of experience or precedent to assure substantial and consistent consideration of environmental factors in decisionmaking. In some areas of Federal activity, existing legislation does not provide clear authority to assure consideration of environmental factors which conflict with other Federal objectives.

To remedy present shortcomings in the legislative foundation of existing programs, and to establish action-forcing procedures which will help to insure that the policies enunciated in section 101 are implemented, section 102 authorizes and directs that the existing body of Federal law, regulation, and policy be interpreted and administered to the "fullest extent possible" in accordance with the policies set forth in this act. It further establishes a number of operating procedures to be followed by all Federal agencies as follows:

(A) Wherever planning is done or decisions are made which may have an impact on the quality of man's environment, the responsible agency or agencies are directed to utilize a systematic, interdisciplinary, team approach. Such planning and decisions should draw upon the broadest possible range of social and natural scientific knowledge and design arts. Many of the environmental controversies of recent years have, in

large measure, been caused by the failure to consider all relevant points of view and all relevant values in the planning and conduct of Federal activities. Using an interdisciplinary approach that brings together the skills of landscape architect, the engineer, the ecologist, the economist, the sociologist and other relevant disciplines would result in better planning, better projects, and a better environment. Too often in the past planning has been the exclusive province of the engineer and cost analyst. And, as a consequence, too often the humanistic point of view, the relationship between man and his surroundings has been overlooked or purposely ignored.

(B) All agencies which undertake activities relating to environmental values, amenities, and aesthetic considerations, are authorized and directed, after consultation with the Council and other environmental control agencies, to make efforts to develop methods and procedures to incorporate those values in official planning and decisionmaking. In the past, environmental factors have frequently been ignored and omitted from consideration in the early stages of planning because of the difficulty of evaluating them in comparison with economic and technical factors. As a result, unless the results of planning are radically revised at the policy level—and this often means the Congress—environmental enhancement opportunities may be forgone and unnecessary degradation incurred. A vital requisite of environmental management is the development of adequate methodology for evaluating the full environmental impacts and the full costs—social, economic, and environmental—of Federal actions.

(C) After consultation with and obtaining the comments of Federal and State agencies which have jurisdiction by law with respect to any environment impact, each agency which proposes legislation and any other major Federal action shall make a detailed statement as to whether the proposed action shall have a significant effect upon the quality of the human environment. If the proposal is considered to have such a significant effect, then the recommendation or report on the proposal must include a detailed statement by the responsible official on:

(i) The environmental impact of the proposed action.

(ii) Any adverse impacts which cannot be avoided if the proposal is implemented.

(iii) The alternative ways of accomplishing the objectives of the proposed action and the results of not accomplishing the objectives.

(iv) The relationship between the local and short-term uses of environmental resources which are contemplated by the proposal and the general objective of maintaining and enhancing the long-term productivity of the environment.

(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

This section further provides that any Federal, State or local agency comments on the required statement shall thereafter be made available to the President, the Council, and the public under the provisions of the Freedom of Information Act and shall accompany the proposal through the subsequent review process.

The committee does not intend that the requirements for comment by other agencies should unreasonably delay the processing of Federal proposals. The Committee anticipates that the President will promptly prepare and publish in the Federal Register a list of those appropriate agencies which have "jurisdiction by law" over various environmental

matters and those appropriate agencies which he finds to have "special expertise" in various environmental matters.

With regard to State and local agencies, unless there is some more restrictive requirement of existing law or regulation, the opportunity for review may be restricted to those agencies which have established environmental jurisdiction within the geographical area which will or which may be affected by the proposed action. It is not the intention of the Committee to include those local agencies with only a remote interest and which are not primarily responsible for development and enforcement of environmental standards. The Committee believes that in some cases the requirement for State and local review may be satisfied by notice of proposed action in the Federal register and by providing all necessary supplementary information to enable full public participation.

To prevent undue delay in the processing of Federal proposals, the Committee recommends that the President establish a time limitation for the receipt of comments (other than those comments required prior to making a detailed statement) from Federal, State, and local agencies similar to the 90-day review period presently established for comment upon Federal water resource development proposals.

(D) Wherever agencies of the Federal Government recommend courses of action which are known to involve unresolved conflicts over competing and incompatible uses of land, water, or air resources, it shall be the agency's responsibility to study, develop, and describe appropriate alternatives to the recommended course of action. The agency shall develop information and provide descriptions of the alternatives in adequate detail for subsequent reviewers and decisionmakers, both within the executive branch and in the Congress, to consider the alternatives along with the principal recommendation.

(E) In recognition of the fact that environmental problems are not confined by political boundaries, all agencies of the Federal Government which have international responsibilities are authorized and directed to lend support to appropriate international efforts to anticipate and prevent a decline in the quality of the worldwide environment. In doing so however, the agencies are constrained to act in a manner consistent with the foreign policy of the United States.

(F) All agencies of the Federal Government shall make such advice and information on environmental management as is available from their expertise and studies to State and local governments, non-governmental institutions, and individuals.

(G) All agencies of the Federal Government shall utilize ecological information in the planning and development of resource-oriented projects. Each agency which studies, proposes, constructs, or operates projects having resource management implications is authorized and directed to consider the effects upon ecological systems in connection with their activities and to study such effects as a part of its data collection.

(H) All agencies of the Federal Government shall, within their areas of expertise or responsibility, assist the Council on Environmental Quality established by this Act.

Section 103

All agencies of the Federal Government are directed to review their present statutory authority, administrative regulations, and current policies and procedures to determine whether existing law prohibits full compliance with the purposes of this act. The agencies will comply with the provisions of this act wherever possible. If, however, there are existing provisions of law, regulations, or policies which are beyond the authority of the particular agency to revise, and if these laws, regulations, or policies which

prohibit the agency from acting in full compliance with the provisions of this Act, the agency is required by section 103 to recommend such measures as are necessary to make its authority consistent with this act. The agency must propose such measures to the President not later than July 1, 1971 and, if recommended, to the appropriate congressional committees.

Section 104

This section provides that nothing in sections 102 or 103 shall affect the specific statutory obligations of any Federal agency:

(1) To comply with environmental quality standards and criteria,

(2) To coordinate or consult with any other State or Federal agency, or

(3) To act or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

There are existing statutes and there may in the future be new statutes which prescribe specific criteria or standards of quality for environmental indicators, or which prescribe certain procedures for coordination or consultation with State or other Federal agencies, or which require recommendations or certification of other Federal agencies as a prerequisite to certain actions. It is not the intent of sections 102 or 103 of this Act to substitute less specific requirements for those which are established concerning particular actions or agencies. It is the intention that where there is no more effective procedure already established, the procedure of this act will be followed. In any event, no agency may substitute the procedures outlined in this Act for more restrictive and specific procedures established by law governing its activities.

Where an agency has such specific instructions governing only one aspect of its coordination activities, or where environmental quality standards and criteria are established for only one aspect of an agency's proposed activity, the agency is not relieved of its obligations to conform with the provisions of sections 102 and 103 which are beyond the sphere of the existing instructions, standards, or criteria.

Section 105

This section provides that the policies and goals set forth in this Act are supplementary to but do not modify, those set forth in existing authorizations of Federal agencies.

TITLE II

Section 201

This section provides that the President shall transmit to the Congress an annual environmental quality report. The first such report shall be transmitted on or before July 1, 1970. Subsequent reports shall be transmitted on or before July 1, in succeeding years.

The report is to include, but not be limited to, a current evaluation of the status and condition of the major environmental classes of the Nation. To the greatest extent possible, this information should be based upon measurements of environmental indicators relating quality and supply of land, water, air, and depletable resources to other factors such as environmental health, population distribution, and demands upon the environment for amenities such as outdoor recreation and wilderness. Significant current and developing environmental problems should be highlighted. Current and foreseeable environmental trends and evaluations of the effects of those trends upon the Nation's future social, economic, physical, and other requirements should be discussed.

It is the committee's strong view that the President's annual report should provide a considered statement of national environmental objectives, trends and problems. The report should provide the best judgment

ment of the best people available on the Nation's environmental problems and the progress being made toward providing a quality environment for all Americans.

The report should summarize and bring together the major conclusions of the technical reports of other Federal agencies concerned with environmental management. Too often, these reports go unread and unevaluated. A succinct, readable summary and evaluation would be of great assistance to the Congress and the President.

It is anticipated that the annual report and the recommendations made by the President would be the vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress.

It is the clear intent of the Senate conferees that the annual report should be referred in the Senate to all Committees which have exercised jurisdiction over any part of the subject matter contained therein. Absent specific language on the reference of the report, the report would be referred pursuant to the Senate rules. It is the Committees' understanding that under the rules all relevant Committees may be referred copies of the annual report.

Section 202

This section creates in the Executive Office of the President a Council on Environmental Quality. The Council shall be composed of three members appointed by the President with the advice and consent of the Senate and who shall serve at the President's pleasure.

It is intended that the members of the Council shall be persons of broad experience and training with the competence and judgment to analyse and interpret trends and developing problems in the quality of the Nation's environment. The committee does not view the Council's functions as a purely scientific pursuit, but rather as one which rests upon scientific, economic, social, esthetic and cultural considerations. The members of the Council, therefore, should not necessarily be selected for depth of training or expertise in any specific discipline, but rather for the ability to grasp broad national issues, to render public service in the national interest, and to appreciate the significance of choosing among present alternatives in shaping the country's future environment.

The President shall designate one member of the Council as Chairman.

Section 203

This section provides the Council with general authority to employ staff and acquire the services of experts and consultants. This provision is designed to provide the Council with the necessary internal staff to assist members of the Council.

It is not intended that the Council will employ, pursuant to this section, a staff which would in any way conflict with the capabilities of the staff of the Office of Environmental Quality which would be created by Title II of the Water Quality Improvement Act of 1969. It is understood that when the Office of Environmental Quality is established, it will mesh with the Council as an integrated agency in the Office of the President—the Council operating on the policy level and Office of Environmental Quality on the staff level.

The professional staff of the Office will be available to the Council (as well as to the President) to assist in implementing existing environmental policy and the provisions of the legislation and to assist in forecasting future environmental problems, values and goals.

Section 204

This section sets forth the duties and functions of the Council as follows:

(1) The Council will assist and advise the President in the preparation of the annual

environmental quality report required by section 201. The committee assumes that the Council would have the primary responsibility for the preparation of the President's annual report. It could, in large measure, be based upon the Council's report to the President required by section 204.

(2) The Council will carry on continuing studies and analyses related to the status of the environment. The Council will seek to establish or cause to be established within the operating agencies of the Federal Government an effective system for monitoring environmental indicators, collecting data, and analyzing trends. It will further seek to relate trends in environmental conditions to short- and long-term national goals and aspirations.

(3) The Council shall review and appraise Federal programs, projects, activities, and policies which affect the quality of the environment. Based upon its review, the Council shall make recommendations to the President.

The committee does not view this direction to the Council as implying a project-by-project review and commentary on Federal programs. Rather, it is intended that the Council will periodically examine the general direction and impact of Federal programs in relation to environmental trends and problems and recommend general changes in direction or supplementation of such programs when they appear to be appropriate.

It is not the committee's intent that the Council be involved in the day-to-day decisionmaking processes of the Federal Government or that it be involved in the resolution of particular conflicts between agencies and departments. These functions can best be performed by the Bureau of the Budget, the President's interagency Cabinet-level Council on the Environment or by the President himself. The committee does, however, strongly feel that the President needs impartial and objective advice which can provide him with an accurate overview of the Nation's environmental trends and problems and how these trends and problems affect the future material and social well-being of the American people.

The Council recommendations to the President are for his use alone, and his actions on their recommendations will depend on the confidence he places in the judgment of the persons he nominates to membership on the Council. Used properly, the Council review and appraisal of Federal activities which affect the quality of the environment can add a new dimension and provide the President with a new insight into the long-range needs and priorities of the country. In the past, the executive agencies' views of National needs, goals, and priorities in the field of environmental management appears to have been so thoroughly subjugated to budgetary and fiscal considerations that the nature of the fundamental values at stake has been obscured. It is the committee's view that the values which are at stake in the environmental management decisions which lie ahead need to be brought to the fore and made the subject of official decision at the highest levels of Governments.

(4) The Council shall provide advice and assistance to the President in the formulation of national policies designed to foster and promote the improvement of the quality of the environment. The President is, of course, free to utilize the services of the Council in any manner in which he desires. The committee hopes, however, that the President would rely on the Council's impartial and objective advice in the execution and formulation of national environmental policies.

(5) The Council shall conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality.

(6) The Council shall document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes. The information made available by the Council will provide a reliable planning base for Federal agencies, a source of indications of emerging environmental problems, and a source of reliable public information on controversial claims regarding the state of the environment.

(7) The Council shall report at least once each year to the President on the state and condition of the environment. This report should represent the Council's considered and impartial judgment. The Council's report would be useful to the President in the preparation of the annual environmental quality report which the President is required to transmit to the Congress by section 201.

(8) The Council shall make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

Section 205

This section provides that the Council, in exercising its powers, functions, and duties under this Act shall:

(1) consult with the Citizens' Advisory Committee on Environmental Quality, which has been established by Executive Order, and with representatives of such other non-Federal groups as the Council deems advisable.

(2) utilize to the fullest extent possible the services, facilities, and information relating to its functions which is already available from existing public and private organizations and individuals. It is the intent of this subsection to assure that duplication of effort and expense will be avoided and that the Council's activities will not conflict with similar activities authorized by law and being performed by other agencies. This section does not, however, preclude the Council from authorizing studies it deems necessary to ascertain the reliability of existing data. Neither does it preclude the Council from authorizing studies or collecting data in fields which are within the jurisdiction of other Federal agencies if the Council deems it necessary to validate or supplement such other agency's work.

Section 206

This subsection provides that the members of the Council shall serve full time. The compensation for the Chairman of the Council is set at level II of the Executive Schedule pay rates and at level IV for the other two members. These provisions parallel the compensation provisions established by law for the Chairman and the members of the Council of Economic Advisers.

Section 207

This section authorizes appropriations for the administrative expenses of the Council. The amounts of \$300,000 for Fiscal Year 1970 and \$700,000 for Fiscal Year 1971 are authorized to provide for the transition period in which the Council is organized. Thereafter an annual appropriation of \$1 million is authorized. The committee chose the \$1 million ceiling because it is comparable to the appropriations which have been required in recent years for the Council of Economic Advisers.

Mr. ALLOTT. Mr. President, as a cosponsor of S. 1075 and as the ranking minority member of the Senate Interior and Insular Affairs Committee, I wish to associate myself generally with the remarks of our distinguished chairman, the Senator from Washington (Mr. JACKSON). I congratulate him for his inde-

fatigable efforts to achieve final congressional action on the National Environmental Policy Act of 1969. This is a measure of particular significance in this era of ever degrading environment.

Mr. President, at this point, perhaps it would be appropriate to point out that while the explanatory statements relative to the interpretation of the conference report language, as provided by the chairman, are useful, they have not been reviewed, agreed upon, and signed by the other Senate conferees. Only the conference report itself was signed by all the Senate conferees, and therefore, only it was agreed upon and is binding. Unlike the House procedure, Senate rules do not provide for a coordinated and signed statement on the part of the managers for the Senate. Therefore, while I may agree with the chairman in most instances with regard to his statement, I must reserve the right to disagree with any part of his statement which I believe to be beyond the scope of the discussions and agreement of the conferees during the conference. The vote to be taken here today will be upon the conference report alone. I presume other Senate Members of the conference committee will similarly reserve their rights. I, also, wish to make reference to my remarks of October 8, 1969, as they appear on page S. 12119 of the temporary RECORD.

It has been accurately stated that by the enactment of this measure, the Congress is not giving the American people something, rather the Congress is responding to the demands of the American people. The observation that Congress is generally far behind the demands of the people is, for the most part, accurate; but, then, this is an observation that can be made of any representative democracy. The measure of any representative democracy is the lapse of time between the apparency of the will of the people and the positive action on the part of their government. In this case, government response cannot be too soon. We can only hope that it is not too late.

The concept of a high-level council on conservation, natural resources, and environment has had congressional expression for nearly a decade. It first found legislative support from a former chairman of the Senate Interior Committee, the late Senator Murray. In the 86th Congress, he introduced S. 2549, the Resources and Conservation Act, which would have established a high-level council of environmental advisers along with the first expression of a comprehensive environmental policy. While the bill was not enacted into law, the 4 days of hearings before the Senate Interior Committee still serve as a useful reference in this vital area. Bills of similar purpose were also introduced in the 89th and 90th Congresses.

A unique joint House-Senate colloquium was held on July 17, 1968, which was sponsored by the Senate Interior Committee and the House Science and Astronautics Committee. This colloquium provided a forum for Members of Congress and interested parties to meet and discuss these important issues.

During the 91st Congress, three bills were introduced and referred to the Senate Interior Committee. All three dealt with environmental policy and creation of new overview institutions. Hearings were held and additional consultation and coordination with the administration ensued. As a result, S. 1075 was reported by the committee and passed by the Senate in a form which would provide the President and the executive branch with effective machinery to help it provide the necessary leadership in reversing the deterioration of our environment. In addition, the bill will establish by statute a national environmental policy. I believe it is significant to point out that S. 1075 enjoys the sponsorship of every single member of the Senate Interior Committee.

The Senate Interior Committee has long had an interest in conservation and environmental matters. Recent examples include the establishment of many national parks and monuments, national seashores and lakeshores, national recreation areas, a national trails system, a wild and scenic rivers system, and a wilderness system. The Outdoors Recreation Resources Commission was a product of this committee. Much of this Nation's most precious heritage has been preserved and protected by legislation emanating from the Interior Committee. This committee has also passed upon legislation to establish the land and water conservation fund.

In the area of water resources, this committee has produced a myriad of legislation to provide for the conservation and wise use of it, including weather modification. The Water Resources Council, the National Water Commission, and the various river basin planning commissions all have their foundations in legislation acted upon by the Interior Committee. The reclamation program, which is under the jurisdiction of this committee, is an environmental program. One only needs to observe the "before" and the "after" with respect to a reclamation project to know this.

In 1964, we passed upon legislation to establish the Public Land Law Review Commission and its companion measure, the Multiple Use and Classification Act. This is truly landmark legislation since our public lands are an important feature of our environment and its quality.

In the field of mineral resources, this committee and the Senate approved a measure, which I have introduced in six successive Congresses, which would establish a national mining and minerals policy. The significance of this measure to environmental quality may not be apparent at first view, but the quality of our environment has a direct relationship to the availability of materials. In addition, during the hearings on this measure, there was a recognition of the need to better control mine waste products by all concerned. Also, technology and the discovery of new materials may lead to the solution of some of our most troublesome environmental problems. Implicit in a national mining and minerals policy is the development of improved methods to recycle both industrial and other wastes and scrap back into the materials stream.

I have taken the time to mention just a few of the legislative achievements of the Interior Committee to demonstrate its long-standing interest and endeavors in the matter of environmental quality. Other committees have also displayed interest in the environmental field, and I do not intend to in anyway diminish their achievements.

The President has expressed his concern over the degradation of our environment. Senators will recall that President Nixon had committed himself in the 1968 campaign to a policy of improving the environment in his October 18, 1968, radio address entitled: "A Strategy of Quality: Conservation in the Seventies." In that address, Candidate Nixon characterized our environmental dilemma in these words:

The battle for the quality of the American environment is a battle against neglect, mismanagement, poor planning and a piecemeal approach to problems of natural resources.

Acting upon that commitment, President Nixon established by Executive order the "Environmental Quality Council" in May of 1969. The Council is of the highest level. The President, himself, is Chairman, and its membership includes the Vice President and five cabinet members. The Council provides the action mechanism to implement environmental policy decisions.

S. 1075, as passed by the Senate and as reported from the conference is designed to complement the actions of the President and provide him with workable tools to get on with the task of repairing our damaged environment and preventing further detriment to it.

We can no longer afford to view the environmental problem on a basis of cleaning up our dirt. We must approach it from the stand-point of prevention. Prevention will require planning—long-range planning—and that planning must rest upon research and new technology. In the 89th and 90th Congresses, I introduced legislation which I believe would assist the Congress to participate in a meaningful way in determining the direction and emphasis of federally financed research. As Senators know, Federal expenditures for research and development approach an annual amount of \$17 billion. The funds for this research and development effort are made available in 13 separate appropriations bills, and at no point does Congress have an opportunity to exercise an overview of our total research and development program. My proposal would provide for the establishment of a nonlegislative joint House and Senate committee to review and report to the Congress on the effectiveness of our overall research and development program, based upon an annual report from the President. Such a mechanism, had it come into existence, could have helped the Congress to have made the necessary decisions with regard to research to have dealt with the many serious problems now facing us in the environmental area. I still hold the belief that some mechanism similar to the one proposed in my bill S. 1305 of the 90th Congress would prove to be useful and helpful.

In summary, the environment is the

concern of us all. In some respect, nearly every department of the Government is or may be involved in decisions or actions which affect the environment. And, the jurisdiction of the various committees of Congress are similarly affected by environmental considerations. The environment is not the exclusive bailiwick of any committee of Congress nor department of Government. S. 1075 recognizes this fact, and therein lies its strength, appropriateness, and timeliness. This is truly landmark legislation in history of man and his efforts to protect and improve his environment, and I am proud to be associated with this measure.

Mr. JACKSON. Mr. President, I wish to express my appreciation at this point for the fine cooperation that we have had in trying to work out differences which occurred since the conferees met on S. 1075.

The junior Senator from Maine has been most cooperative. We would have had many unresolved problems had it not been for his cooperation.

Mr. MUSKIE. Mr. President, I wish to express appreciation to the junior Senator from Washington for his cooperation in working out points of difference which otherwise might have been very difficult and could have led to difficulties on the floor of the Senate, which all of us wanted to avoid.

The basic objective of S. 1075 is one to which I think all members of the Committee on Public Works, as well as all members of the Committee on Interior and Insular Affairs subscribed, and that is the concept of developing an overall and total environmental improvement policy. We recognize that in order to do that we will be concerned with the work of many agencies in the executive branch of Government as well as with the work of many committees in Congress.

What we have undertaken to do in our cooperative effort on this bill and in S. 7, which is in conference between the two Houses, is to begin the process of developing a comprehensive review of our environmental policies as well as a comprehensive policy which we hope will emerge out of the work of these disparate executive agencies and eight Senate committees.

I do not intend to prolong my discussion of the bill, but I think the discussions which I have been privileged to have with the distinguished Senator from Washington and other members of the committee, as well as with members of the Committee on Public Works and the two staffs have raised some points of emphasis to which I should refer in this discussion.

I know my colleagues on the Committee on Public Works, the chairman, the Senator from West Virginia (Mr. RANDOLPH), and the distinguished ranking Republican member (Mr. BOGGS), also might like to ask questions for points of emphasis.

One of the questions that primarily concerned us on the floor of the Senate on October 8, when we last had a discussion among those concerned, and one which concerned us in the discussion of the conference report, was the question

of the relationship of this legislation to the established agencies of the executive branch. First of all, we were concerned with those which have an impact upon the environment, actual or potential, and second, we were concerned with those agencies which have responsibilities in the field of environmental improvement.

I would like to refer to some of the insertions in the Record made by the distinguished Senator from Washington. He has inserted three principal documents: First, his floor statement, as it is described, in the conference report; second, a section-by-section analysis of the report as amended in conference; and finally, a statement of major changes in S. 1075, as passed by the Senate and as changed by the conference report.

First, I should like to refer to page 4 of the major changes analysis. On page 4 he refers to that part of the discussion which is entitled "section 102 in general" and I should like to read it:

The conference substitute provides that the phrase "to the fullest extent possible" applies with respect to those actions which Congress authorizes and directs to be done under both clauses (1) and (2) of section 102 (in the Senate-passed bill, the phrase applied only to the directive in clause (1)).

Mr. President, what disturbed us about this language in the "major changes analysis" was the impact of the phrase "to the fullest extent possible" upon the executive agencies which have authority under other statutes with respect to the improvement of the quality of our environment, specifically such agencies as the Federal Water Pollution Control Administration and the National Air Pollution Control Administration. Both agencies are of special interest to the Senate Committee on Public Works. Each operates under basic legislation which has been written under the jurisdiction of the Senate Public Works Committee and which has become law. Legislation has been carefully developed over the past 7 or 8 years. We were concerned that S. 1075, through such language as that which I have just quoted, should not have the effect of changing the basic legislation governing the operation of the agencies such as those to which I have referred.

As a result of the discussions with the Senator from Washington and his staff, language was inserted on page 5 of the "major changes document" put into the Record by the Senator from Washington which clarifies this point.

That insertion reads:

Many existing agencies such as the National Park Service, the Federal Water Pollution Control Administration, and the National Air Pollution Control Administration already have important responsibilities in the area of environmental control. The provisions of section 102 (as well as 103) are not designed to result in any change in the manner in which they carry out their environmental protection authority.

It is clear then, and this is the clear understanding of the Senator from Washington and his colleagues, and of those of us who serve on the Public Works Committee, that the agencies having authority in the environmental improvement field will continue to operate under their legislative mandates as previously

established, and that those legislative mandates are not changed in any way by section 102-5.

The second section of the conference report which is of concern to us is section 103, for the very same reasons that I have discussed already. I shall read this portion of the discussion in the major changes analysis placed in the Record by the Senator from Washington.

This portion reads:

This section is based upon a provision of the Senate passed bill [section 102(f)] not in the House amendment. This section, as agreed to by the conferees, provides that all agencies of the federal government shall review their "present statutory authority, administrative regulations, and current policies and procedures to determine whether there are any deficiencies and inconsistencies therein, which prohibit full compliance with the purpose of the provisions" of the bill. If an agency finds such deficiencies or inconsistencies, it is required under this section to propose to the President not later than July 1, 1971, such measures as may be necessary to bring its authority and policies into conformity with the purposes and procedures of the bill.

Now, Mr. President, in the discussion with the Senator from Washington and his staff, it developed that this language had different implications for different kinds of executive agencies, especially with respect to the agencies whose activities have an impact, potentially unfavorable, upon the environment. Obviously, it was the objective of this language to make such agencies environment conscious.

With respect to that objective, I was fully in accord with the Senator from Washington and his committee. However, the second set of executive agencies affected by that language are those agencies which have authority in the environmental improvement field; more specifically, insofar as the Public Works Committee is concerned, the Federal Water Pollution Control Administration and the National Air Pollution Control Administration.

We were concerned that the language which I have referred to should not have the effect of forcing the agencies over which we have jurisdiction to conform their basic legislative mandates to the provisions of S. 1075. This is made clear on page 7 of the major changes analysis, which was placed in the Record by the Senator from Washington.

I quote from it:

It is not the intent of the Senate conferees that the review required by section 103 would require existing environmental control agencies such as the Federal Water Pollution Control Administration and National Air Pollution Control Administration to review their statutory authority and regulatory policies which are related to maintaining and enhancing the quality of the environment. This section is aimed at those agencies which have little or no authority to consider environmental values.

This language in the "major changes analysis" document clarifies, with the full agreement of the Senator from Washington and his colleagues and myself, their understanding as to the implications of section 103 with respect to those executive agencies which have environmental improvement authority at

the present time under already existing legislation.

The third point to which I should like to refer, for the purpose of emphasis, is the question of committee jurisdiction with respect to the various areas of environmental concern which are now involved in the jurisdictions of several Senate standing committees.

It was our concern on October 8, when we discussed this matter in the Senate last, and it is our concern now, that S. 1075 shall not have the effect of altering existing committee jurisdictions in this respect. Understandably, the Senator from West Virginia (Mr. RANDOLPH), the Senator from Delaware (Mr. BOGGS), and I are especially concerned with the jurisdiction of the Public Works Committee of the Senate.

I think that in the "major changes analysis" document of the Senator from Washington this is again clarified in the following language, which I read from page 9:

It is the clear intent of the Senate conferees that the annual report would be referred in the Senate to all Committees which have exercised jurisdiction over any part of the subject matter contained therein. Absent specific language on the reference of the report, the report would be referred pursuant to the Senate rules. It is the committees' understanding that under the rules all relevant Committees may be referred copies of the annual report. This was the intent of the Senate when S. 1075 was passed. In the section-by-section analysis of Section 303 of S. 1075 at page 26 of the committee report No. 91-296, it is expressly stated that,

"It is anticipated that the annual report and the recommendations made by the President would be a vehicle for oversight hearings and hearings by the appropriate legislative committees of the Congress."

Mr. President, as I say, this was clearly understood on October 8 when we last discussed it on the Senate floor. It was never at issue as between the Senator from Washington and myself. It think it is clearly understood today.

The legislative language which was included in S. 1075 on October 8 was stricken from the conference report because, under House rules, it was considered to be new matter which was subject to a point of order. So I think it is appropriate that on the Senate floor today we reemphasize that it is the intent of the Senate, and of the representatives of both committees, that when the annual reports of the Council on Environmental Control and its legislative recommendations, as they are developed, reach the floor, they shall be referred to the committees which have had traditional jurisdiction with respect to the subjects of such report and such legislative recommendations.

I want to make one final point, and for this I would like to refer to a document inserted in the RECORD by the Senator from Washington (Mr. JACKSON) this afternoon, entitled "Section-by-Section Analysis." This point is important because, beginning on October 8, and a few days prior to that time, we undertook to do something new in legislative direction. We undertook to place in the Executive Office of the President an agency which was in part the product of S. 1075 and in part the product of S. 7,

the Water Quality Improvement Act, which is still in conference between the House and the Senate and which is not likely to be acted on finally in this session of Congress, not because of the subject I am about to touch upon, but because of other matters in this bill which are not touched upon in S. 1075 at all.

The point I wish to raise with respect to the Council on Environmental Quality established by S. 1075 and the Office of Environmental Quality which would be established under title II of S. 7 is that on page 18 of the section-by-section analysis which was inserted in the RECORD by the Senator from Washington (Mr. JACKSON) is found a discussion clarifies the relationship of these two bodies.

On page 20 of the section-by-section analysis, in a discussion of section 203, is found the following:

SECTION 203

This section provides the Council with general authority to employ staff and acquire the services of experts and consultants. This provision is designed to provide the Council with the necessary internal staff to assist members of the Council.

It is not intended that the Council will employ, pursuant to this section, a staff which would in any way conflict with the capabilities of the staff of the Office of Environmental Quality which would be created by Title II of the Water Quality Improvement Act of 1969. It is understood that when the Office of Environment Quality is established, it will mesh with the Council as an integrated agency in the Office of the President—the Council operating on the policy level and Office of Environment Quality on the staff level.

The professional staff of the Office will be available to the Council (as well as to the President) to assist in implementing existing environmental policy and the provisions of the legislation and to assist in forecasting future environmental problems, values and goals.

In conclusion, and before yielding to my colleagues on the Senate Public Works Committee, I would like to say that I agree with the Senator from Washington (Mr. JACKSON) that S. 1075 can become landmark legislation in the field of environmental quality. Whether it does will depend upon the effectiveness and performance of the new Council on Environmental Quality which S. 1075 would create, the performance of the Office of Environmental Quality which would be established under S. 7, and the coordination and the cooperation of the various executive agencies which have an impact upon the environment and those other agencies which have at present the authority to improve the environment in one respect or another.

In addition to that, the landmark quality of S. 1075 will depend upon the continuing cooperation of the Senate committees—at least seven or eight of them—which have supervisory authority and jurisdiction with respect to executive agencies, such as the Committee on Interior and Insular Affairs, the Committee on Public Works, the Committee on Agriculture and Forestry, the Banking and Currency Committee and its Subcommittee on Housing, the Joint Committee on Atomic Energy, and so many others. And so, in order to really

achieve the high-minded objectives of S. 1075 which are crucial, I think, to the future health and welfare of our country, we must move in the direction of coordinating the work of the Congress in this field.

S. 1075 undertakes to take important steps in the direction of coordinating the efforts of the executive agencies. We must now go beyond that in the Congress of the United States to coordinate the work of the senatorial and House committees. The Senator from Washington, other members of our two committees and I have discussed this objective as well.

There is pending, for example, in the Committee on Government Operations, Senate Resolution 78, which I first introduced two Congresses ago, to create a Senate Select Committee on Technology and the Human Environment, whose objective is this kind of coordination.

The Senator from Washington (Mr. JACKSON), in the course of our discussions, indicated his preference for the Senate and the House to coordinate their work more closely in the environmental field. I concur with him that it would be preferable to create a nonlegislative joint committee patterned on the basis of the select committee which I have proposed, and I am glad to join with him and interested Members on this side and in the House to undertake to create that kind of joint committee as early as possible in the next session of the Congress. We are agreed on that objective. We have in mind the kind of work which is envisaged in Senate Resolution 78.

So I would like to think that, notwithstanding the difficulties and the differences of opinion that the Senator from Washington (Mr. JACKSON) and I have had with respect to S. 1075 and S. 7, out of the labor pains of this creation we have begun a period of cooperation and coordination in the Senate's work in the field of the improvement of environmental quality which will result in a wiser, more effective policy in this field.

Mr. JACKSON. Mr. President, will the Senator yield?

Mr. MUSKIE. I yield.

Mr. JACKSON. I wish to express my concurrence in the comments made by the able Senator from Maine, with special reference to the need for a joint nonlegislative committee on the environment. I would hope that would be the first order of business next year. I think we can move expeditiously in the Senate. If we can have similar cooperation in the House, we can have it enacted into law in the next session.

Mr. BOGGS. Mr. President, will the Senator yield?

Mr. MUSKIE. I yield to the Senator from Delaware.

Mr. BOGGS. Mr. President, as a member of the Public Works Committee of the Senate, I have a couple of questions I would like to ask the distinguished Senator from Maine.

Is my understanding correct that all reports and legislative proposals as a result of S. 1075 will be referred to all committees with established jurisdiction in the field? For example, any report or legislative proposal involving water pol-

lution would be referred to the Committee on Public Works. Is that correct?

Mr. MUSKIE. Yes. That is the clear understanding of the Senator from Washington (Mr. JACKSON), myself, and the two staffs. There is no fuzziness or doubt on that point at all.

Mr. BOGGS. Am I correct that the thrust of the directions contained in S. 1075 deals with what we might call the environmental impact agencies rather than the environmental enhancement agencies, such as the Federal Water Pollution Control Administration or National Air Pollution Control Administration.

Mr. MUSKIE. Yes. Sections 102 and 103, and I think section 105, contain language designed by the Senate Committee on Interior and Insular Affairs to apply strong pressures on those agencies that have an impact on the environment—the Bureau of Public Roads, for example, the Atomic Energy Commission, and others. This strong language in that section is intended to bring pressure on those agencies to become environment conscious, to bring pressure upon them to respond to the needs of environmental quality, to bring pressure upon them to develop legislation to deal with those cases where their legislative authority does not enable them to respond to these values effectively, and to reorient them toward a consciousness of and sensitivity to the environment.

Of course this legislation does not impose a responsibility or an obligation on those environmental-impact agencies to make final decisions with respect to the nature and extent of the environmental impact of their activities. Rather than performing self-policing functions, I understand that the nature and extent of environmental impact will be determined by the environmental control agencies.

With regard to the environmental improvement agencies such as the Federal Water Improvement Administration and the Air Quality Administration, it is clearly understood that those agencies will operate on the basis of the legislative charter that has been created and is not modified in any way by S. 1075.

Mr. BOGGS. I thank the Senator. Can he tell me how the staff of the Environmental Policy Council will mesh with the staff of the Office of Environmental Quality when it is established?

Mr. MUSKIE. As I indicated from the language I read from the section-by-section analysis put in the RECORD by the Senator from Washington (Mr. JACKSON), the Office of Environmental Quality which would be created by title II of S. 7, would constitute the staff of the secretariat of the Council on Environmental Quality established by S. 1075, and the two would be meshed together in a way to produce a strong agency, strong at the board level and at the staff level, to begin the development of a coordinated Federal policy in the environmental field.

Mr. BOGGS. Mr. President, I thank the distinguished Senator from Maine for yielding, and for his answers to these questions. I take this opportunity to congratulate and commend him and

the distinguished Senator from Washington (Mr. JACKSON) for the excellent and outstanding work both have done in this field, and for their cooperation in working together and bringing forth a sound agreement on the language in this bill, including its legislative history.

I think this language protects the jurisdiction of other committees that have exercised jurisdiction in the environmental field, while preserving the basic intent of S. 1075.

Mr. MUSKIE. I thank the Senator. I am happy to yield now to the distinguished chairman of the Committee on Public Works, the Senator from West Virginia (Mr. RANDOLPH). I appreciate the confidence he has shown in permitting me to conduct these negotiations with Senator JACKSON, and the confidence he has expressed in the results we have produced.

Mr. RANDOLPH. Mr. President, my knowledgeable colleagues, the Senator from Maine (Mr. MUSKIE), the Senator from Washington (Mr. JACKSON), the Senator from Colorado (Mr. ALLOTT), and the Senator from Delaware (Mr. BOGGS) have discussed this legislation which is of concern, not only because of congressional committee jurisdiction, but to Congress and the people of the United States. Today, approximately 203 million persons, live in an area that is becoming increasingly confined. Because of the problems of urban development, mobility of people, and the methods by which products are moved from one point to another our society and our environment are constantly changing.

I wish to stress—and do it very briefly, I hope—what I believe has come out of the discussion today and prior conferences that have been held by members of the Public Works Committee and the Committee on Interior and Insular Affairs. There may have been some elements of misunderstanding. If there were, they have been resolved. If there were some elements of controversy, they have been dissipated.

I think that we have, through these deliberations, come closer together. This is important if we are to deal with environmental quality effectively. It is only of recent years, Mr. President, though environmental quality means so much to every facet of our society, that the Congress has given specific attention to this subject.

I serve not only as the chairman of the Senate Public Works Committee, but of our Subcommittee on Roads. We recognize, as my able colleague from Maine and others in this body have recognized, that in America, as we put down a mile of highway, no matter what type of road it is, we are not only placing cement or asphalt on the earth, but we are enabling people to move from one point to another.

So in 1968, it was my purpose, and the Senate and Congress agreed, that we would write into the Federal Aid Highway Act that year the first approach to this matter of relocation, bringing people into the conferences before an actual decision was made as to where a road would go, either by the State or Federal Government, or by an agreement of both

agencies. The Federal Aid Highway Act is an example of how we are making the people a part of policymaking, even though they, in a sense, are laymen rather than experts, that they would have a part in thinking these matters through.

The Senator from Maine (Mr. MUSKIE) and other Senators who have followed these matters know that it is important that we take people into our confidence before the fact rather than after the fact, in order to provide the opportunity for discussion of the many approaches which can bring a catalyst into being. And so, in the 1968 act, we dealt with matters such as relocation. As the Senator from Washington (Mr. JACKSON) knows, this is a matter of environmental quality for the people whose lives are affected by highways. We are facing up to our responsibility for the first time, to provide prompt compensation for those who are displaced in business and industry, or in their places of residence.

I use only this one legislative enactment of Congress to indicate that we are moving more broadly and more sufficiently to improve environmental quality. I could discuss, of course, the Corps of Engineers of the U.S. Army, and how now they are beginning to look at environmental matters as never before, because in the Congress of the United States, and the Committee on Public Works they have provided leadership and required them to consider environmental quality.

We find environmental quality interwoven with whatever we do. Whether it is building a road or constructing a bridge, whether it is in the impoundment of waters or constructing a building, we must realize that we are working not only with statistics and figures, but we are working with people. The lives of people are involved.

I think it is important for the RECORD to reflect that Senators have given their attention in recent weeks and days to this matter, have attempted to bring S. 1075 and S. 7 together to resolve jurisdictional problems and to lay down the ground rules that will guide us to doing a better job in the months and years ahead.

The stress has been here today on the coordination and the cooperation. I think this is a very real partnership among Senator JACKSON, Senator MUSKIE, Senator ALLOTT, and Senator BOGGS.

I think we are merging our efforts. We have arrived at an agreement. We must not fragment this effort. We must pool our efforts to assure for future generations an environment in which people can live and grow.

We must assure that consideration of legislation, which affects the environment in which people live, by people and committees who are dedicated to this very real task that lies before us. The resolution of differences between S. 1075 and S. 7, now H.R. 4148, provides this assurance.

As chairman of the Committee on Public Works, I congratulate all of those Senators who have carried on these negotiations. They were negotiations in the very best sense of the word. Although

all of the members of the Committee on Public Works did not engage in the various negotiations, they were kept completely informed of what the Senator from Maine (Mr. MUSKIE) was thinking and what his plans were. The Senator from Delaware (Mr. Boggs), who well represents the viewpoint of the minority, although there is no minority within our committee, was present during most of those negotiations.

Mr. MUSKIE. Mr. President, I thank my distinguished chairman.

I have taken more time than I expected this afternoon. However, this is an opportunity to make clear our understanding. The RECORD is clear.

I express my appreciation to the Senator from Washington (Mr. JACKSON), the Senator from Colorado (Mr. ALLOTT), and my colleagues on the Senate Public Works Committee.

Mr. JACKSON. Mr. President, I express my appreciation to the able chairman of the Public Works Committee, the Senator from West Virginia (Mr. RANDOLPH), for the support and understanding we have received from all of our colleagues on both committees.

I express my appreciation also to the Senator from Maine (Mr. MUSKIE), with whom I have worked very closely, the Senator from Delaware (Mr. Boggs), and the Senator from Colorado (Mr. ALLOTT), and for the fine cooperation of the staff.

Mr. President, I ask unanimous consent that the conference report on S. 1075 be printed at this point in the RECORD.

There being no objection, the report was ordered to be printed in the RECORD, as follows:

CONFERENCE REPORT, REPT. NO. 91-765

[To accompany S. 1075]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the House to the bill (S. 1075), to establish a national policy for the environment; to authorize studies, surveys, and research relating to ecological systems, natural resources, and the quality of the human environment; and to establish a Board of Environmental Quality Advisers, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House to the text of the bill and agree to the same with an amendment as follows: In lieu of the matter proposed to be inserted by the House amendment insert the following: That this Act may be cited as the "National Environmental Policy Act of 1969".

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the pro-

found influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

SEC. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the

maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

SEC. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

SEC. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

SEC. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; (2) current and foreseeable trends in the quality management and utilization of such environments and the effects of those trends on the social, eco-

conomic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development, and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

SEC. 202. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

SEC. 203. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 204. It shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201;

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the

President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

SEC. 205. In exercising its powers, functions and duties under this Act, the Council shall—

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order numbered 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments, and other groups as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

SEC. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

SEC. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

And the House agree to the same.

That the Senate recede from its disagreement to the amendment of the House to the title of the bill, and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the amendment of the House to the title of the bill, insert the following: "An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes."

And the House agree to the same.

EDWARD A. GARMATZ,
JOHN D. DINGELL,
WAYNE N. ASPINALL,
W. S. MAILLIARD,
JOHN P. SAYLOR,

Managers on the Part of the House.

HENRY M. JACKSON,
FRANK CHURCH,
GAYLORD NELSON,
GORDON ALLOTT,
LEN B. JORDAN,

Managers on the Part of the Senate.

Mr. JACKSON. Mr. President, I move the adoption of the conference report. The motion was agreed to.

PROGRAM

Mr. MANSFIELD. Mr. President, for the information of the Senate, we will shortly have the foreign aid appropriations bill conference report before us. Whether that bill can be finished today is highly doubtful.

Then on Monday, it is anticipated that we will have the supplemental appropriations bill and the tax reform bill, and somewhere along the line, perhaps, the Labor-HEW appropriations bill conference report. We have four altogether.

And for the information of the Senate, it can expect votes on the foreign aid appropriations bill conference report this afternoon or Monday or Tuesday or Wednesday or next month, whenever we get to the appropriate time.

RECESS

Mr. MANSFIELD. Mr. President, I ask unanimous consent at this time that the Senate stand in recess until 4:30 p.m.

The PRESIDING OFFICER. Is there objection? Without objection, it is so ordered.

Thereupon (at 3 o'clock and 55 minutes p.m.), the Senate took a recess until 4:30 p.m.

The Senate reconvened at 4 o'clock and 30 minutes p.m. when called to order by the Presiding Officer (Mr. BYRD of West Virginia in the chair).

MESSAGE FROM THE HOUSE

A message from the House of Representatives, by Mr. Bartlett, one of its reading clerks, announced that the House had agreed to the report of the committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 15149) making appropriations for foreign assistance and related programs for the fiscal year ending June 30, 1970, and for other purposes; that the House receded from its disagreement to the amendment of the Senate numbered 6 to the bill and concurred therein; and that the House receded from its disagreement to the amendments numbered 8 and 31 to the bill and concurred therein, each with an amendment, in which it requested the concurrence of the Senate.

ENROLLED BILLS SIGNED

The message also announced that the Speaker had affixed his signature to the following enrolled bills, and they were signed by the Acting President pro tempore:

H.R. 9334. An act to amend title 38, United States Code, to promote the care and treatment of veterans in State veterans' homes; and

H.R. 14751. An act making appropriations for military construction for the Department of Defense for the fiscal year ending June 30, 1970, and for other purposes.

ORDER OF BUSINESS

Mr. MANSFIELD. Mr. President, I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call the roll.

The bill clerk proceeded to call the roll.

Mr. MANSFIELD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

CALL OF THE ROLL

Mr. MANSFIELD. Mr. President, I ask unanimous consent that there be a quorum call, and to comply with the rule, before I make that suggestion, I want to announce that it will be a live quorum. I hope officials will notify Senators that it will be a live quorum.

The PRESIDING OFFICER (Mr. HUGHES in the chair). Is the Senator suggesting the absence of a quorum?

Mr. MANSFIELD. Oh, yes. It will be a live quorum.

Dec. 22, 1969

HOUSE

12. TAXATION. The House, 381-2, and Senate, 71-6, agreed to the conference report on H. R. 13270, to reform the income tax laws (H. Rept. 91-782) (pp. H12889-90, H12901-60, S17553-7, S17574-605). This bill will now be sent to the President.
 13. NATIONAL SEASHORE. The Interior and Insular Affairs Committee reported with amendment H. R. 3786, to authorize the appropriation of additional funds necessary for acquisition of land at the Point Reyes National Seashore in California (H. Rept. 91-785). p. H12961
 14. APPROPRIATIONS. Agreed, 261-110, to the conference report on H. R. 13111, Labor-HEW, and related agencies appropriation bill, 1970. pp. H12890-901
 15. TARIFFS. The "Daily Digest" states the House considered by unanimous consent and passed H. R. 14956, to amend the Tariff Act of 1930--to extend the duty-free treatment of certain dyes. p. D1245
 16. FOREIGN AID. The "Daily Digest" states conferees were appointed on H. R. 15149, the foreign aid appropriations bill, 1970. p. D1245
 17. SUPPLEMENTAL APPROPRIATIONS. Both Houses agreed to the conference report on H. R. 15209, the supplemental appropriation bill, 1970 (pp. D1245, S17623-36). This bill will now be sent to the President.
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18. ENVIRONMENTAL QUALITY. The "Daily Digest" states the House agreed to the conference report on S. 1075, to establish a national policy for the environment (p. D1246). This bill will now be sent to the President.
S173091-6
 19. The House proceedings of Dec. 22, 1969, will be continued in the next issue of the Record. p. H12961

BILLS INTRODUCED

20. FISH INSPECTION. S. 3298 by Sen. Kennedy, to protect consumers and to assist the commercial fishing industry by providing for the inspection of establishments processing fish and fishery products in commerce, and to amend the Fish and Wildlife Act of 1958 to provide technical and financial assistance to the commercial fishing industry in meeting such requirements; to the Commerce Committee. Remarks of author pp. S17637-8.
21. RETIREMENT. S. 3301 by Sen. Harris, to amend title 5, U. S. Code, to include as creditable service for civil service retirement purposes service as an enrollee of the Civilian Conservation Corps; to the Post Office and Civil Service Committee.
22. MERCHANT MARINE. S. 3287 by Sen. Magnuson, to amend the Merchant Marine Act, 1936; to the Commerce Committee. Remarks of author pp. S17557-74.
23. HIGHWAYS. S. 3293 by Sen. Randolph, to amend title 23, U. S. Code, to provide for use of highway funds for public transportation; to the Public Works Committee. Remarks of author p. S17503.

24. FOOD ADDITIVES. S. 3295 by Sen. Nelson, to amend sections 201 (s) and 409 of the Federal Food, Drug, and Cosmetic Act, as amended, relating to food additives; to the Labor and Public Welfare Committee. Remarks of author pp. S17503-4.
25. AIRPLANE HUNTING. H. R. 15400 by Rep. O'Hara, to amend the Fish and Wildlife Act of 1956 to provide a criminal penalty for shooting at certain birds, fish, and other animals from an aircraft; to the Merchant Marine and Fisheries Committee.
26. MEAT INSPECTION. H. R. 15403 by Rep. Sebelius, to amend the Federal Meat Inspection Act to give additional time to small State inspected facilities additional time to comply with new inspection regulations and that State inspected facilities after meeting the inspection requirements shall be eligible for distribution in establishments on the same basis as plans inspected under title I; to the Agriculture Committee.
27. UNIFORM TIME. H. R. 15404 by Rep. Shriver, to amend the Uniform Time Act of 1918 to provide that daylight saving time shall be observed in the U. S. from the first Sunday following Memorial Day to the first Sunday following Labor Day; to the Interstate and Foreign Commerce Committee.
28. HEALTH BENEFITS. H. R. 15407 by Rep. Gonzalez, to amend chapter 89 of title 5, U. S. Code, relating to enrollment charges for Federal employees' health benefits; to the Post Office and Civil Service Committee.
29. ENVIRONMENT. H. R. 15397 by Rep. Esch, to authorize the U. S. Commissioner of Education to establish educational programs to encourage understanding of policies and support of activities designed to enhance environmental quality and maintain ecological balance; to the Education and Labor Committee.
H. R. 15398 by Rep. Frey, H. R. 15401 by Rep. Mailliard, H. R. 15409 by Rep. Pelly, H. R. 15410 by Rep. Tiernan, H. R. 15411 by Rep. Udall, to establish a Joint Committee on Environmental Quality; to the Rules Committee.

flown over the U.S. Capitol to be carried to the moon on behalf of the House. I have had the hope that the historic flag would be kept up in the Capitol for display by the House, as the House certainly had a lot to do with the Apollo 11 going to the moon—we were the strong backers of the Apollo moon program, backing it unanimously in the House on a record vote which I called, to support President Kennedy in his courageous plan announced in the House Chamber in a joint session in 1961, to land a man on the moon and return him safely in this decade.

The SPEAKER. In reply to the gentleman's inquiry, the resolution provides that the flag shall be returned to the House of Representatives on or before June 1, 1970.

Mr. FULTON of Pennsylvania. For how long, Mr. Speaker? I did not hear—until June 1, 1970?

The SPEAKER. Exactly.

Mr. FULTON of Pennsylvania. There is a definite time limit on the loan then when the flag will be returned?

The SPEAKER. Until June 1, 1970.

Mr. FULTON of Pennsylvania. I am glad to hear the loan is of limited time duration, and return will be made to the House. I had hoped originally that the flag would be brought up here and displayed either in the Rotunda of the Capitol or inside of the House, because it was for the purpose of display in the Capitol by the House of Representatives that I acquired the flag.

Mr. Speaker, on the basis the flag is returned by the Smithsonian Institution to the House, on June 1, 1970, I withdraw my reservation of objection.

The SPEAKER. Is there objection to the request of the gentleman from Oklahoma (Mr. ALBERT)?

There was no objection.

The resolution was agreed to.

A motion to reconsider was laid on the table.

CONFERENCE REPORT ON S. 1075, NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Mr. DINGELL. Mr. Speaker, I call up the conference report on the bill (S. 1075) to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality, and ask unanimous consent that the statement of the managers on the part of the House be read in lieu of the report.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

Mr. GROSS. Mr. Speaker, reserving the right to object, does the gentleman propose to take some time to explain this conference report?

Mr. DINGELL. In answer to the question of my good friend, the gentleman from Iowa, the answer is yes.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

The Clerk read the statement.

(For conference report and statement, see proceedings of the House of December 17, 1969.)

Mr. DINGELL (during the reading). Mr. Speaker, I ask unanimous consent that the statement of the managers on the part of the House be considered as read.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

The SPEAKER. The gentleman from Michigan is recognized for 1 hour.

Mr. DINGELL. Mr. Speaker, S. 1075, as originally passed by the Senate, contained three titles in the bill. Title I provided for a declaration by the Congress of a national environmental policy; title II provided the necessary authorization for the Federal agencies to carry out the purposes of the act in conjunction with their existing ongoing programs and activities; and title III provided for the creation of a Board of Environmental Quality Advisers in the Executive Office of the President.

Mr. Speaker, as the Members of the House will recall, the House struck out of the Senate bill all after the enacting clause and inserted in lieu thereof a substitute amendment. The House amendment to the bill was very similar to title III of the Senate-passed bill except for the name "Board of Environmental Quality Advisers" which was changed to read "Council on Environmental Quality." There were no provisions in the House amendment similar to titles I and II of the bill as originally passed by the Senate.

Mr. Speaker, the committee of conference has agreed to a substitute for both the Senate bill and the House amendment. The substitute is in effect title I of the bill as originally passed by the Senate and the House amendment to the bill.

Except for technical, clarifying, and conforming changes, following is a brief explanation of the differences between the bill, as passed by the House, and the substitute, as provided by the conference agreement:

PROVISIONS OF THE CONFERENCE SUBSTITUTE

Section 1 of the Senate bill provided that the bill may be cited as the "National Environmental Policy Act of 1969". Section 2 of the Senate bill contained a statement of the purpose of the bill. There were no similar provisions in the House amendment. The conference substitute conforms to the Senate bill with respect to these two sections.

Title I of the bill provides for a declaration of a national environmental policy. There was no similar provision in the House amendment to the bill.

Section 101 of the Senate bill contained a recognition by Congress of (1) the critical dependency of man on his environment, (2) the profound influences which the factors of contemporary life have had and will have on the environment, and (3) certain specified goals in the management of the environment which the Federal Government should, as a matter of national policy, attain by use of all possible means, consistent with other essential considerations of national policy.

The House amendment (in the first section thereof) contained a general statement of national environmental policy, but did not include specified policy goals. The first section of the House amendment also stated that the Federal Government should achieve the general policy in cooperation with State and local governments and certain specified public and private organizations and that financial and technical assistance should be among the means and measures used by the Federal Government to achieve the policy. Under the conference agreement, the language of the House amendment is substantially retained in section 101(a) of the conference substitute.

The national goals of environmental policy specified in the Senate bill are set forth in section 101(b) of the conference substitute. Some of the national goals are as follows:

(1) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(2) attain the widest range of beneficial uses of the environment;

(3) preserve important historic, cultural, and natural aspects of our national heritage;

(4) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(5) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Section 101(c) of the conference substitute states that "Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment. There was no similar provision in the House amendment."

Section 102 of the conference substitute is based on section 102 of the Senate bill. There was no comparable provision in the House amendment. Under the conference substitute, the Congress authorizes and directs that, to the fullest extent possible: (1) the Federal laws, regulations, and policies be administered in accordance with the policies set forth in the bill; and (2) all Federal agencies shall—

(A) utilize a systematic, interdisciplinary approach to insure integrated use of the sciences and arts in any official planning or decision-making which may have an impact on the environment;

(B) in consultation with the Council on Environmental Quality, identify and develop methods and procedures to insure that unquantified environmental amenities will be considered in the agency decision-making process, along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation or other major Federal actions a detailed statement by the responsible official on the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the proposal be adopted, alternatives to the proposed action, the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved. Prior to making any such detailed statement, the responsible Federal official would be required to consult with and obtain the comments of any Federal agency having jurisdiction by law or special expertise with respect to any environmental impact involved and the comments of any such agency, together with the comments and views of appropriate State and local agencies, would be required thereafter to be made available to the President, the Council on Environmental Quality, and the public.

In addition, the Federal agencies would be required to—

(D) study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend support to programs and other ventures designed to maximize international cooperation in anticipating and preventing a decline in the world environment;

(F) make available to State and local governments and individuals and organizations advice and information useful in restoring, maintaining and enhancing the quality of the environment;

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established under title II of the bill.

Section 103 is based upon a provision of the Senate bill (section 102(f)) which was not in the House amendment. This section provides that all agencies of the Federal Government shall review their "present statutory authority, administrative regulations, and current policies and procedures to determine whether there are any deficiencies and inconsistencies therein which prohibit full compliance with the purpose and provisions" of the bill. If an agency finds such deficiencies or inconsistencies, it is required under this section to propose to the President not later than July 1, 1971, such measures as may be necessary to bring its authority and policies into conformity with the intent, purposes, and procedures of the bill.

Section 104, which was not in the House amendment, provides that nothing in sections 102 or 103 shall affect the specific statutory obligations of any Federal agency—

(1) to comply with criteria and standards of environmental quality;

(2) to coordinate or consult with any Federal or State agency; or

(3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Section 105 declares that the policies and goals set forth in the bill are supplementary to those set forth in existing authorities of Federal agencies. The effect of this section is to give recognition to the fact that the bill does not repeal existing law and that it does not obviate the requirement that the Federal agencies conduct their activities in accordance with the provisions of this bill unless to do so would clearly violate their existing statutory authorizations.

Title II of the bill has to do with the establishment of the Council on Environmental Quality and is essentially the same as the House amendment to S. 1075.

Section 201 of the conference substitute requires the President to submit to the Congress annually, beginning July 1, 1970, an Environmental Quality Report which will set forth an up-to-date inventory of the American environment, broadly and generally identified, together with an estimate of the impact of visible future trends upon the environment. Such report shall also include a review of the programs and activities of the Federal, State, and local governments, as well as those of nongovernmental groups, with respect to environmental conditions, together with recommendations for remedying the deficiencies of existing programs, including legislative recommendations.

Section 202 of the conference substitute establishes in the Executive Office of the President a Council on Environmental Quality composed of three members appointed by the President by and with the advice and consent of the Senate. One of the members shall be designated by the President as the chairman of the Council. The conference substitute provision is basically the House pro-

vision except that the membership of the Council would be reduced from five to three and the members of the Council would have to be approved by and with the advice and consent of the Senate.

Section 203 of the conference substitute (which were contained in both the House amendment and the bill as it originally passed the Senate) would permit the Council to hire such officers and employees as are necessary to carry out the purposes of the Act and also would permit the Council to hire such experts and consultants as may be appropriate.

The House amendment set forth the following duties and functions of the Council on Environmental Quality—

(1) to assist the President in the preparation of the Environmental Quality Report;

(2) to gather information on the short- and long-term problems that merit Council attention, together with a continuing analysis of these problems as they may affect the policies stated in section 101;

(3) to maintain a continuing review of Federal programs and activities as they may affect the policies declared in section 101, and to keep the President informed on the degree to which those programs and activities may be consistent with those policies;

(4) to develop and to recommend policies to the President, on the basis of its activities, whereby the quality of our environment may be enhanced, consistent with our social, economic and other requirements;

(5) to make studies and recommendations relating to environmental considerations, as the President may direct; and

(6) to report at least once each year to the President.

Section 204 of the conference substitute contains the functions and duties listed above and also adds the following functions and duties (which, under title II of the bill as it originally passed the Senate, would have been the responsibilities of other Federal agencies)—

(1) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; and

(2) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes.

Section 205 of the conference substitute sets forth those public and private organizations with which the Council on Environmental Quality shall consult in carrying out its functions and duties under the Act and states that the Council should utilize, to the fullest extent possible, the services, facilities, and information of public and private organizations and individuals in carrying out such functions and duties. Section 205 conforms to the language in section 7 of the House amendment, with the exception that the conference substitute provision specifies that the Council shall consult also with the Citizens' Advisory Committee on Environmental Quality, which was established in May, 1969, by Executive Order of the President.

Section 206 provides that the Chairman of the Council on Environmental Quality shall be compensated at the rate provided for at Level II of the Executive Schedule Pay Rates, and that the other members of the Council shall be compensated at the rate provided for in Level IV of such Rates. This section conforms with the rates of compensation provided for in both the House amendment and the bill as it originally passed the Senate.

Section 207 of the conference substitute authorizes the appropriation of not to exceed \$300,000 in fiscal year 1970, \$700,000 in fiscal year 1971, and \$1,000,000 in each fiscal year thereafter, to carry out the purposes of the Act. Under the House amendment, the

same amounts were authorized to be appropriated except with respect to fiscal year 1971, for which \$500,000 was authorized.

Mr. Speaker, before closing I would like to take this opportunity to pay tribute to my colleagues, particularly to my distinguished chairman, the Honorable EDWARD A. GARMATZ, the members of the Merchant Marine and Fisheries Committee, and the House and Senate conference committee, who have worked so courageously and diligently in seeing that this legislation came to fruition. It has been a long and hard-fought battle, but we have been successful, and I cannot congratulate my colleagues enough.

Mr. Speaker, my efforts in behalf of this legislation date back to March of 1967, when in the first session of the 90th Congress, I and several other members of the House introduced similar legislation to provide for the establishment of a Council on Environmental Quality. Although no action—other than hearings—was taken in the 90th Congress, much valuable groundwork was laid.

In February of this year, I again introduced legislation and was most fortunate in having it referred to the Committee on Merchant Marine and Fisheries, and subsequently to the Subcommittee on Fisheries and Wildlife Conservation, the subcommittee I have the honor of chairing. The subcommittee held 7 full days of hearings on the legislation, and as a result of the hearings, H.R. 12549, which was reported by the committee and passed by the House, was cosponsored by all the members of the subcommittee. As you will probably recall, the bill passed on the floor of the House overwhelmingly with a vote of 372 to 15.

Mr. Speaker, the passage of this legislation will constitute one of the most significant steps ever taken in the field of conservation. With the establishment of the Council on Environmental Quality, we can now move forward to preserve and enhance our air, aquatic, and terrestrial environments, and at the same time it will offer us an opportunity to carry out the policies and goals set forth in the bill to provide each citizen of this great country a healthful environment.

Mr. Speaker, I strongly recommend the adoption of this conference report.

Mr. Speaker, I have reviewed the statement of the chairman of the Senate Interior and Insular Affairs Committee and find no inconsistencies in his statement with that of the statement on the part of the House managers.

Mr. Speaker, a communication from the gentleman from Maryland follows:

HOUSE OF REPRESENTATIVES,
COMMITTEE ON PUBLIC WORKS,
Washington, D.C., December 20, 1969.
Hon. JOHN D. DINGELL,
House Committee on Merchant Marine and
Fisheries, Rayburn House Office Building,
Washington, D.C.

DEAR JOHN: It is my understanding that the Conference Report on S. 1075 will shortly be scheduled for floor consideration. I have had an opportunity to review the Conference Report.

I have a few questions concerning the effects of the legislation which I would like to address to you for clarification on the floor. Four questions are enclosed.

Sincerely yours,

GEORGE H. FALLON,
Chairman.

QUESTIONS BY MR. FALLON

I have had an opportunity to review the Conference Report on S. 1075. I have a few questions concerning the effects of the legislation which I would like to address to the gentleman.

1. Would the gentleman advise as to the intent of the House Conferees with regard to committee jurisdiction concerning the annual report required of the President by Section 201 and the recommendations made therein?

Answer: It is the clear intent of the House Conferees that the annual report required by Section 201 would be referred in the House of Representatives to all committees which have exercised jurisdiction over any part of the subject matter contained therein. The House Conferees' refusal to accept specific language for inclusion in the Conference Report was based upon a parliamentary technicality and was in no way intended to place exclusive jurisdiction over the President's report in any one committee.

The House Conferees intend that under the language of the Conference Report, the annual report and the recommendations made by the President would be the vehicle for oversight hearings and hearings by the appropriate legislative committees of the House, and the referral of the annual report would be made to all appropriate committees.

2. H.R. 4148 which is now in conference includes provision for the Office of Environmental Quality which would serve to advise the Council of Environmental Quality which is established in S. 1075. Is there any conflict between the Office and the Council?

Answer: Title II establishes a Council on Environmental Quality in the Executive Office of the President. This Council will provide an institution and an organizational focus at the highest level for the concerns of environmental management. It will provide the President with objective advice, and a continuing and comprehensive overview of the Federal jurisdictions involved with the environment. The Council's activities in this area will be complemented by the support of the Office of Environmental Quality proposed in H.R. 4148, the Water Quality Improvement Act of 1969. It is not intended that the Council will employ, pursuant to Section 203, a staff which would in any way conflict with the capabilities of the staff of the Office of Environmental Quality.

It is further understood that, when the Office of Environmental Quality is established, it will mesh with the Council as an integrated agency in the Office of the President—the Council operating on the policy level and the Office of Environmental Quality on the staff level. The professional staff of the Office will be available to the Council to assist in the implementation of existing environmental policy and the provisions of the legislation and to assist in forecasting future environmental problems, values and goals.

3. Is it intended that the Council become involved in the day to day operation of the Federal agencies, specific project, or in inter-agency conflicts which arise from time to time?

Answer: In including Section 204, Ite1 (3), pertaining to the duties and functions of the Council, the Conferees on the part of the House did not view this direction to the Council as implying a project-by-project review and commentary on Federal programs. Rather, it is intended that the Council will periodically examine the general direction and impact of Federal programs in relation to environmental trends and problems and recommend general changes in direction or supplementation of such programs when they appear to be appropriate.

It is not the Conferees' intent that the Council be involved in the day-to-day decision-making processes of the Federal Government or that it be involved in the resolution

of particular conflict between agencies and departments. These functions can best be performed by the Bureau of the Budget, the President's Interagency Cabinet-level Council on the Environment or by the President himself.

4. What would be the effect of this legislation on the Federal Water Pollution Control Agency?

Answer: Many existing agencies such as the Federal Water Pollution Control Agency already have important responsibilities in the area of environment control. The provisions of Sections 102 and 103 are not designed to result in any change in the manner in which they carry out their environmental protection authority. This provision is primarily designed to assure consideration of environmental matters by agencies in their planning and decision-making—but most especially those agencies who now have little or no legislative authority to take environmental considerations into account.

(Mr. DINGELL asked and was given permission to revise and extend his remarks.)

GENERAL LEAVE

Mr. DINGELL. Mr. Speaker, I ask unanimous consent that all Members may revise and extend their remarks on the conference report on environmental quality.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

Mr. MAILLIARD. Mr. Speaker, will the gentleman yield?

Mr. DINGELL. I yield to the gentleman from California (Mr. MAILLIARD).

(Mr. MAILLIARD asked and was given permission to revise and extend his remarks.)

Mr. MAILLIARD. Mr. Speaker, I consider this a very important bill.

I support the conference report and statement of the House managers on S. 1075 to establish a national policy for the environment, and to provide for the establishment of a Council on Environmental Quality. I urge my colleagues to adopt this report.

S. 1075, as passed by the House, would establish a five-member Council on Environmental Quality appointed by the President whose principal duty would be to assist the President in the preparation of an annual environmental quality report. Additionally, the Council would make and furnish to the President such studies, together with policy and legislative recommendations in the area of environmental quality as the President might request. The bill contained a brief statement of policy recognizing the impact of man's activity on all components of the natural environment, and the critical importance of restoring and maintaining environmental quality for the welfare of mankind.

The Senate bill would establish a comparable three-member Board on Environmental Quality which would perform essentially the same functions called for in the House bill. The Senate, however, substantially increased the responsibilities of this advisory group so that it would have continuing statutory authority and responsibility to monitor the quality of the environment and review the activities of the Federal Government to determine the extent to which its programs contribute to the

achievement of environmental quality. The Senate bill would thus create a more dynamic council, one that need not wait for an executive request to pursue the policy mandate of the Congress. I believe this is an important and significant strengthening of the Council.

The Senate bill also contained a more detailed statement of policy and, most significantly, positive direction to all agencies of the Federal Government that they shall administer their programs to the fullest extent possible in a manner which reflects the declaration of national environmental policy set forth in the bill.

What the conference has done, in essence, is to adopt the basic House version of S. 1075 with respect to the establishment of the Council, together with the strengthening provisions I have mentioned previously, and that portion of the Senate bill setting forth detailed policy statements and agency directives.

Title I of the conference bill sets forth the statements of policy and requirements for implementation of these policies while title II of the bill establishes the Council on Environmental Quality.

Mr. Speaker, the work of the conference has produced a careful blending of the House and Senate-passed bills while retaining the basic thrust of both. This legislation stands as a commitment of the Federal Government to the American people that the quality of life in this country in terms of its basic environmental components will be restored and maintained for our own benefit and that of succeeding generations of Americans.

Again, Mr. Speaker, I urge adoption of the conference report.

Mr. SAYLOR. Mr. Speaker, will the gentleman yield?

Mr. DINGELL. I yield to my good friend the gentleman from Pennsylvania.

(Mr. SAYLOR asked and was given permission to revise and extend his remarks.)

Mr. SAYLOR. Mr. Speaker, I rise in strong support of the conference report on S. 1075, the National Environmental Policy Act of 1969. The bill as agreed upon by the conference is a landmark in the history of conservation legislation.

While this landmark legislation is not as strong and inclusive as I would prefer it to be, it provides the foundation upon which this Congress and future Congresses can forge ahead toward the goal of providing all Americans with a quality environment in which they can live.

Mr. Speaker, the importance of this legislation cannot be overstated. My colleagues in this body should well understand the need and goals behind this legislation. In this Nation today, we read with ever increasing frequency about the pollution of our waters, pollution of the air we breathe, the scarring of our natural landscape, through the exploitation of our resources. The profound impact of man's activity through technological advances, to accommodate the growing urbanization, resource exploitation, and the industrial expansion has a direct interrelation to the health and welfare of all Americans.

The report of the conference commit-

tee seeks to meet this challenge by recognizing the need for a coordinated Federal program to attack the abuses so nonchalantly inflicted upon all mankind. The bill as reported by the committee of conference proposes a Council on Environmental Quality to coordinate the directives that each Federal agency examine its authority and programs, and to administer and interpret that authority and programs so as to assure for all Americans a safe, healthful, productive, esthetic, and cultural environment.

I am privileged to have sponsored a similar measure, H.R. 12900, in this first session of the 91st Congress. I have also witnessed during this first session of the 91st Congress a number of converts to our environmental concerns. I am thankful for their concern and support because it expresses the responsibility of Congress to the public demand. That public demand is for a coordinated Federal program directed toward the protection of our environment.

Mr. Speaker, I most strongly support the adoption of the conference report and urge my colleagues to support its adoption.

Mr. HARSHA. Mr. Speaker, will the gentleman yield?

Mr. DINGELL. I yield to my good friend, the gentleman from Ohio (Mr. HARSHA).

Mr. HARSHA asked and was given permission to revise and extend his remarks.)

Mr. HARSHA. Mr. Speaker, I would like to ask the distinguished gentleman from Michigan a question. It is my understanding this legislation contains several questions about jurisdiction of various committees in the House. It was my understanding there was to be a statement on the part of the managers, or on the part of the gentleman from Michigan, on the subject.

Mr. DINGELL. Mr. Speaker, I assure the gentleman from Ohio the statement will be in my extension of remarks.

Mr. HARSHA. Do I have the gentleman's assurance this will not invade the jurisdiction of the Public Works Committee in particular?

Mr. DINGELL. Mr. Speaker, it is not the intention of this committee to impair or alter or change in any fashion the jurisdiction of any sitting committee in this body.

Mr. HARSHA. Mr. Speaker, I thank the gentleman.

Mr. GARMATZ. Mr. Speaker, I would like to join my colleagues in recommending passage of the conference report on S. 1075. This legislation, if enacted, would provide for the establishment of a Council on Environmental Quality.

The Council, which would be composed of outstanding and qualified leaders of the scientific, industrial and business community, would oversee and review all national policies relating to our environment; it would report directly to the President and recommend national programs to foster and promote the improvement of the Nation's total environmental quality.

One of the vital functions of this Council would be to consult with State and local governments and other interested

groups and individuals, and to utilize the services, facilities and information of these agencies and organizations. I consider this to be an extremely important and significant function, since, for the first time, it would establish an effective liaison between the Federal Government and individual States, thereby creating a long-needed central clearinghouse of information.

Mr. Speaker, the ugly and devastating disease of pollution has contaminated every aspect of our environment—air, land, and water. The problem is so vast and interrelated, one segment of the environment cannot be separated from another. The only logical and practical approach is a broad-ranging, coordinated Federal program, as proposed in this legislation.

Establishing such a Council will not solve all our massive pollution problems. It will, however, constitute the most significant step yet taken to conserve and preserve our natural resources for future generations.

I also think it is fitting to add a word of praise about my distinguished colleague, JOHN DINGELL, because it is he—more than any other—who pioneered the movement that gradually evolved into the legislation we have before us today. Although we are considering the Senate bill, I think it is important to recognize that Congressman Dingell's efforts date back to March, 1967, when he first introduced legislation on this issue. As chairman of our Subcommittee on Fisheries and Wildlife Conservation, he also sacrificed much in personal time and effort in a series of seven hearings—which he chaired in May and June of this year. An impressive record was established at those hearings, which were held both morning and afternoon—on each of the 7 days.

Mr. Speaker, I am sure that this important legislation will be passed and enacted expeditiously, so that we can all get on with the job of protecting our environment from further destruction by man.

Mr. ASPINALL. Mr. Speaker, the conference report on S. 1075, which is now before this House for consideration, brings to the attention of the Members of Congress the many facets of the problems of environmental quality which are continually coming before the Congress of the United States for consideration and solution. Most apparent of these various problems is the matter of jurisdiction of not only the executive departments but also the committees of Congress. For the first time, to my knowledge, since I have been a Member of Congress—some 21 years—the conferees appointed from this body included members of two different standing committees of the House. I do not see how the matter could have been resolved otherwise, although I would be the first one to admit that perhaps other committees of the House should have had representation on the conference committee in addition to those two committees handling the conference report. As a House conferee, I have signed the conference report but I have refused to sign the statement of the managers on the part

of the House. This is the first time that I have found myself in this unenviable position. However, I find that I cannot read into the language that was finally agreed upon by the conferees the interpretation that is given to it in the statement of the House managers. I desire my position to be clearly set forth.

The two principal purposes of S. 1075 are: First, to state congressional policy with respect to protecting our natural environment; and, second, to establish a Council on Environmental Quality to alert this Nation with respect to environmental problems that we must face up to and resolve in the years ahead. The legislation which has emerged from the conference committee accomplishes both of these purposes. And while environmental problems are already receiving increased attention in connection with ongoing Federal programs, I believed that this legislation will add new emphasis and urgency to their resolution. Thus, the language of the conference report has my approval. However, the statement of managers, in certain respects, does not accurately interpret the language in the conference report.

Since I first became involved in this legislation at the time it was considered in the House, it has been my purpose to try to establish an orderly procedure for bringing the operations of all existing Federal agencies into compliance with the environmental policy requirements of this legislation. It has been my position from the beginning that existing Federal agencies should not be given new statutory authority by this legislation. All agencies should cooperate so far as possible under their existing authority in complying with the congressional statement of environmental policy and should seek, through normal procedures, the authority they need to fully comply with this policy. This agency procedure is established in sections 102 and 103 of the conference report, the final language of which is language that I suggested to the conference committee.

Section 102 tells the agencies to follow to the fullest extent possible under their existing authority the procedures required to make their operations consistent with the environmental policy established in this act; and section 103 tells them to review their statutory authority and, if there are deficiencies or inconsistencies which prohibit full compliance with the purposes and provisions of this act, to report not later than July 1, 1971, what additional authority is needed to permit them to operate in conformity with this act. There is no language in these two sections to support the interpretation given in the statement of managers which reads:

The House conferees are of the view that the new language does not in any way limit the Congressional authorization and directive to all agencies of the Federal Government set out in subparagraphs (A) through (H) of clause (2) of section 102. The purpose of the new language is to make it clear that each agency of the Federal Government shall comply with the directives set out in such subparagraphs (A) through (H) unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance with one of the

directives impossible; * * * the intent of the conferees is that all Federal agencies shall comply with the provisions of section 102 "to the fullest extent possible," unless, of course, there is found to be a clear conflict between its existing statutory authority and the bill.

The conference report language requires the agencies to determine whether there are any deficiencies in their statutory authority which prohibit compliance, and you cannot make "deficiencies in statutory authority" mean "clear conflict between its existing statutory authority and the bill" merely by statements of intent and interpretation in the statement of managers. A deficiency in an agency statutory authority—which prohibits compliance cannot be interpreted to mean that—

Each agency * * * shall comply * * * unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance * * * impossible.

Mr. Speaker, I don't believe that this matter is of such urgency that we can't take the time to follow an orderly procedure in requiring all agencies to get their operations in line with the environmental policy, needs, and goals of this Nation. They can do that by proceeding as required in the conference report to examine their authority and move quickly to recommend the necessary changes. The new statutory authority that is needed can then be recommended to the Congress and can be considered by the committees of Congress having jurisdiction.

I recommend approval of the conference report.

Mr. GALIFIANAKIS. Mr. Speaker, I am very pleased to see the results of the House-Senate conference committee on S. 1075, the National Environmental Policy Act of 1969. Our colleagues have brought forth an excellent piece of legislation which will, in my opinion, become a landmark in society's struggle to preserve the quality of our surroundings while continuing to enjoy high standards of living.

This legislation is further demonstration of congressional leadership in resolving the basic conflicts of using the environment. It caps a decade of response to public concern which has generated laws for pollution abatement, natural resource management, recreation and natural beauty. The enthusiastic administration of these laws by the executive branch should bring a restoration of environmental quality in the United States of which we may all be proud.

The activities of Government agencies will all be subjected to a thorough review, under the terms of this bill, to judge their impact on the environment and to minimize adverse effects. A great deal of scientific knowledge will be necessary to avoid subjective judgement and to form a basis for enforcement which is incontrovertible. I would call to the attention of the Congress, Mr. Speaker, the important facilities and the trained scientists and engineers now at work in North Carolina on these very problems. The research triangle area of Raleigh, Durham, and Chapel Hill houses three progressive institutions of higher learning.

In addition the National Institute of Environmental Health and major laboratories of the National Air Pollution Control Administration are located in the area.

It is clear that these technical organizations will play a major role in implementing the bill we have before us today. The interplay of ideas facilitated by the proximity of many different laboratories and training centers will make North Carolina a focal point for government and private sector management personnel as they seek the facts to bring their programs into consonance with the new National Environmental Policy Act.

Mr. HARSHA. Mr. Speaker, I am happy to have the assurance of the gentleman from Michigan (Mr. DINGELL) that there is no intent to infringe upon the jurisdiction of any committee in this Congress.

However, I am still concerned about the sweeping affect this legislation could have on the substantive law and the jurisdiction of practically every committee in this Congress.

Functions and responsibilities of the Federal agencies are substantively changed in the House substitute for S. 1075. These changes have a definite bearing on the interpretation of existing laws and administration of programs which are under the jurisdiction of committees other than the originating committee of this legislation in the House. In addition the annual environmental quality report which would include legislative recommendations for realigning agency functions and responsibilities conceivably could be referred to that one originating committee and in effect make them an oversight committee for a myriad of programs presently under the jurisdiction of other committees.

I trust this is not the case and that the remarks of the gentleman from Michigan (Mr. DINGELL) will preclude any such action.

While I appreciate the assurances of the gentleman from Michigan I still have deep reservations about this conference report and feel I must warn the Members that they should be on guard against the ramifications of a measure that is so loose and ambiguous as this.

I fear that the purpose of this bill is to cause a change in the organization of the House of Representatives and to reorganize the administrative agencies for the purpose of transferring jurisdiction and powers to certain committees of this body.

Lest this sound too strong an accusation, I would remind this body that the President of the United States was the first to organize a Council of this nature. Under the guise for support of such a concept and with a view toward providing the benefits of a legislative organized body, S. 1075 and its original counterparts were set before the bodies of Congress.

However, if we read this bill and if we look at what it does, we discover it does absolutely nothing to control pollution. The language is vague and strange. The exposition which we may find in the CONGRESSIONAL RECORD of December 20

where the other body acted gives us cause to wonder. For example, I would invite the attention of my colleagues to the RECORD of December 20, 1969, S17458, at the point where the distinguished junior Senator from Maine addresses himself to the meaning of this legislation. At that point the concern of the Public Works Committee of the other body was expressed because the language is such that it could be read and interpreted to mean that the jurisdiction of that committee in that body over various areas of environmental concern would be altered. It is my understanding of the RECORD that assurances were given to the Public Works Committee of the Senate by that body that this was not the case. I must admit that I would feel considerably more content about this bill if similar assurances were given in this body.

I would like, if I might, to invite the attention of my colleagues to page S. 17460 of the RECORD of December 20. In this, the distinguished Junior Senator from Maine distinguishes between environmental control agencies and those agencies which have a strong impact upon the environment. In the latter category, he means the Bureau of Public Roads, for example, as well as the Atomic Energy Commission. He further states that the nature and extent of environmental impact with regard to these agencies will be determined by the environment control agencies.

Now this might be a desirable thing: I do not know and I do not say at this time that it is not. I do say, however, that this is a major revision of the administrative functions of the U.S. Government and is indeed far beyond the concept of that which the House in its wisdom thought it was passing when H.R. 12549 was considered by this body.

Obviously there was considerable reservation in the Senator from Maine's mind about this bill or there would have been no need for the colloquy.

In other words, reasonable minds could come to different conclusions about this legislation because it is so loose and ambiguous.

The impact of S. 1075, if it becomes law, I am convinced would be so wide sweeping as to involve every branch of the Government, every committee of Congress, every agency, and every program of the Nation. This is such an important matter that I am convinced that we here should consider it very, very carefully and make a clear record as to exactly the direction in which we wish the various elements of our Government to move.

I regret that so important a matter is being handled in so light a manner. I realize the Members desire to adjourn for Christmas and that the hour is late and that we are all tired, but this is no subject to merely brush aside. I had hoped that this matter could be laid over until Congress reconvenes, providing the Congress with ample time to fully understand the complete ramifications of this legislation.

Mr. Speaker, I fear, too, that there may be a measure of politics in the action forced upon us here tonight.

Frequently, it is the practice in the American political arena to use emotionally charged words or phrases as a disguise for actions completely divorced from the true intent of the apparent purpose. I believe we have such a case here.

As we all know, the word "environment" has become emotionally charged. We are given to understand that a major thrust of the President's state of the Union address will concern itself with this subject. We have been told—and the CONGRESSIONAL RECORD supports it—that an effort is being made among the campuses of the country to make "environment" an issue leading to demonstrations of various types. It is my understanding indeed that high-placed Government officials in the legislative branch have extended their support for these demonstrations.

I would take the liberty, Mr. Speaker, of reminding this body that whenever a subject becomes so infused with emotion, the danger arises that it can be used to defeat the very purposes which it purports to support.

I suggest to this body that we have such a case here in S. 1075.

I have devoted much of the time that I have spent serving in this body to the creation, support and passage of pollution control legislation. I believe that I am thoroughly familiar with our problems in water pollution, our problems with the administrative agencies, and our problems in accomplishing the efforts made toward improving the environment. I am woefully aware of the problems that have not yet been solved; and I shall support as I have in the past, any legitimate effort to solve these problems but I cannot stand idly by and watch this most serious problem of our Nation and indeed of all the nations be used as a thin disguise of politically motivated moves.

Mr. Speaker, this matter should be laid over until Congress reconvenes in January so that Members can be adequately apprised of the full import of this measure.

Mr. FARBSTAIN. Mr. Speaker, I fully supported S. 1075 when it came to the floor of the House in October, and I continue to support it today. However, I hope that its passage will not serve as an excuse for substantive legislative action.

The bill establishes a national policy for the environment. Unfortunately, policy standards can easily get lost in the bureaucratic maze.

The bill authorizes studies and research on environmental problems. All too often, research has been used by the Federal Government as an excuse for action. The Federal Government has studied environmental problems to death. We know that our air and waters are polluted. It does us a great deal more good to establish programs to do away with this situation than to study the extent of it from every possible angle.

The bill also establishes a Board of Environmental Quality Advisers. More bureaucracy need not bring more action.

I hope that before this Congress adjourns next year, it can take some of the substantive steps necessary to demon-

strate a genuine commitment to do something about the environment.

In the area of auto-caused air pollution, this means ignoring the pressure of the auto-oil complex and passing strict new standards for pollution control, controlling the use of additives in fuels, and making it clear in many other ways as well that the Federal Government is not going to sit idly by and let the automobile suffocate us all.

In the area of water pollution, this means enactment of legislation like the Regional Water Quality Act of 1970, to make the polluter pay for the cost of his pollution. It also means more money for water pollution abatement. I am the House sponsor of that bill.

It means that the Federal Government should be policing its own dispoiling of the environment.

The bill we have before us, S. 1075, is certainly a good bill and deserves enactment, but it must not be used as an excuse for substantive action.

The SPEAKER. The question is on the conference report.

The conference report was agreed to. A motion to reconsider was laid on the table.

REQUEST FOR AUTHORITY FOR SPEAKER TO DECLARE RECESS TODAY

Mr. ALBERT. Mr. Speaker, I ask unanimous consent that it may be in order at any time today for the Speaker to declare a recess subject to the call of the Chair.

The SPEAKER. Is there objection to the request of the gentleman from Oklahoma?

Mr. GROSS. Mr. Speaker, I object.

The SPEAKER. Objection is heard.

PERSONAL EXPLANATION

Mr. STOKES. Mr. Speaker, on Saturday, on rollcall No. 347, on the adoption of the conference report on the Economic Opportunity Act amendments, I was away on business. Had I been present, I would have voted "yea."

Mr. Speaker, today, on rollcall No. 350, the conference report on the appropriation bill for the Departments of Labor and Health, Education, and Welfare, had I been present I would have voted "yea."

REVIEW OF THE FIRST SESSION, 91ST CONGRESS

(Mr. ADAIR asked and was given permission to address the House for 1 minute, to revise and extend his remarks and include extraneous matter.)

Mr. ADAIR. Mr. Speaker, as the first session of the 91st Congress draws to a close, I think it propitious to review for the citizens of the Fourth Congressional District of Indiana the work of this Congress and my views on some of the important matters that have engaged our attention. In addition, I have included a summary of the legislation which I have introduced.

Although the Nixon administration has made more than 40 major proposals to the Congress, the Democratically con-

trolled Congress has failed to act on many of these programs. There has been a sharp contrast between the vigor of the new administration and the lethargy of the Democratic leadership on Capitol Hill. Perhaps the greatest weakness of this Congress is that it did not manage the appropriations bills competently. The Government entered the new fiscal year last June 30 without a single appropriation being authorized. Consequently, many of the administration proposals on such badly needed programs as crime control, anti-inflation measures, tax reform, education and manpower training, revenue sharing, welfare reform, and electoral reform have been delayed.

There have, however, been occasional breakthroughs and action has at least been initiated on many of the Nixon proposals. Congress has been responding to the Nixon program to curb inflation by reducing Federal spending. The first comprehensive attempt at tax reform in years was undertaken by this session of Congress. Legislative progress was also made on improving the quality of our environment, draft reform, and social security. In addition, the Nixon plan for ending the Vietnam war has been solidly supported by the Congress.

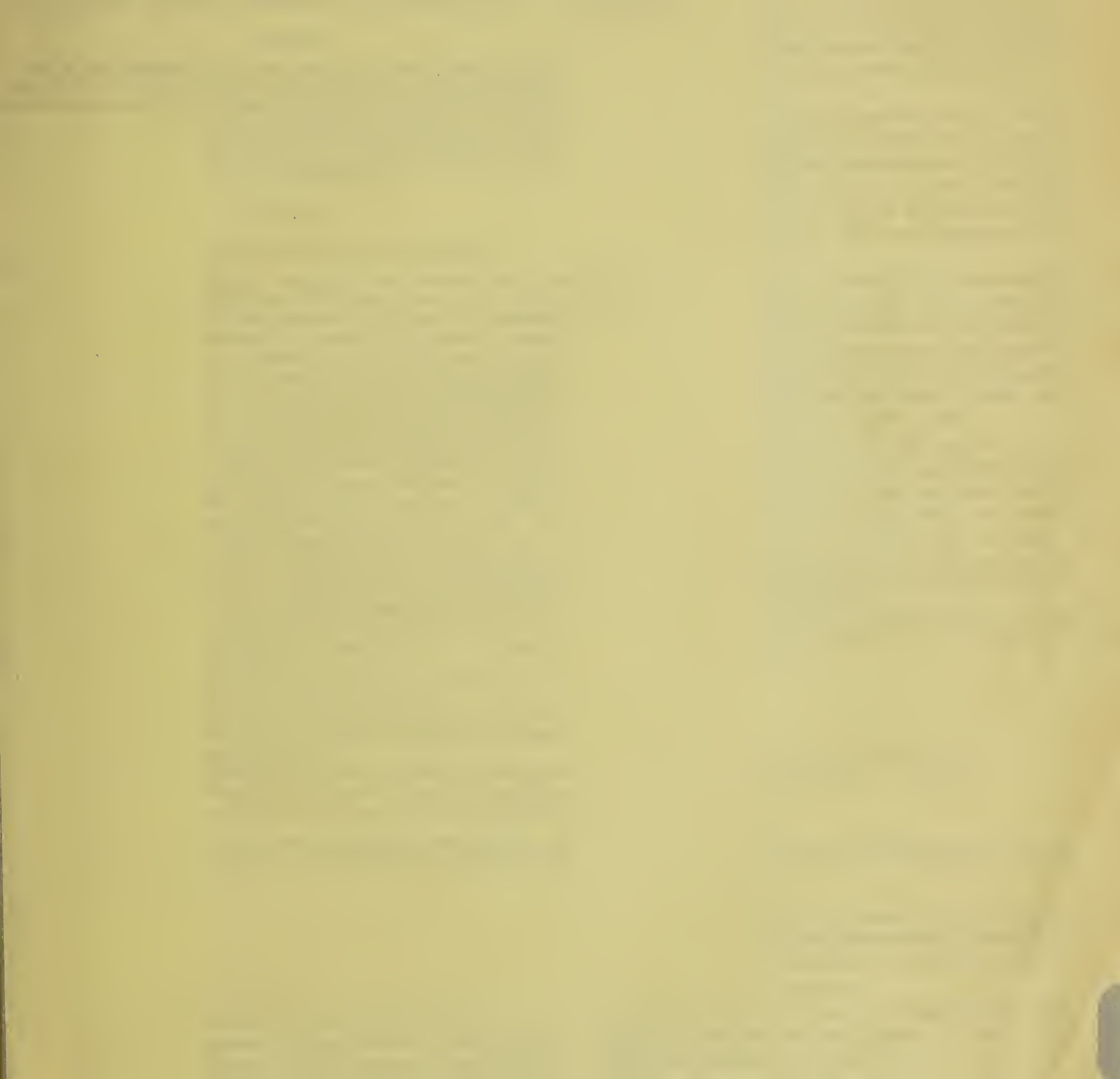
TAXES

The major concern of the House of Representatives this session has been the overhaul of the antiquated tax structure. There are many loopholes in the tax laws which no longer serve the interests of the country, either from a revenue or public policy standpoint and which result in an undue tax burden being placed on the middle income group. Thus, I voted for the tax reform bill which passed the House in August. The \$7 billion measure provides a tax cut of at least 5 percent for all taxpayers with incomes under \$100,000 annually by 1972, removes 5 million low-income earners from all Federal income tax obligations, permits 10 million taxpayers to use the simplified form instead of itemizing their deductions and closes major loopholes in the present tax laws. Another tax reform measure that I supported was the Interstate Taxation Act which prohibits taxation of the same income by more than one State and allows a State to levy income taxes only on one domiciled in the State or one earning income within a State.

As in the last Congress, I again voted against the surtax. In my view, judicious budget pruning would eliminate the necessity for this tax. With State and local taxes so high, I just did not feel that continuance of the surtax was justified. Another provision of the surtax extension act that I opposed was the repeal of the 7-percent investment tax credit which I believe should be retained as a stimulant to business expansion.

ECONOMY VOTES

In order to prevent further increases in federal taxes and to secure a balanced budget so necessary to stop inflation, I made an effort to vote only for programs vital to the country and at a reasonable level of funding. For the most part, however, the authorization and appropriation requests of the Nixon administra-





Public Law 91-190
91st Congress, S. 1075
January 1, 1970

An Act

83 STAT. 852

To establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Environmental Policy Act of 1969".

National Environmental Policy Act of 1969.

PURPOSE

SEC. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

SEC. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

Policies and goals.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

(1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

Administration.

SEC. 102. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;

(B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(E) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(F) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

Copies of statements, etc.; availability.

81 Stat. 54.

(G) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(H) assist the Council on Environmental Quality established by title II of this Act.

SEC. 103. All agencies of the Federal Government shall review ^{Review.} their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

SEC. 104. Nothing in Section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

SEC. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

SEC. 201. The President shall transmit to the Congress annually ^{Report to Congress.} beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban, and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals, with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

SEC. 202. There is created in the Executive Office of the President ^{Council on Environmental Quality.} a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds: to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

80 Stat. 416.
Duties and
functions.

SEC. 203. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

SEC. 204. It shall be the duty and function of the Council—

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201;

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

SEC. 205. In exercising its powers, functions, and duties under this Act, the Council shall—

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order numbered 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities, and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

SEC. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV or the Executive Schedule Pay Rates (5 U.S.C. 5315).

Tenure and
compensation.
80 Stat. 460,
461.

81 Stat. 638.

SEC. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

Appropriations.

Approved January 1, 1970.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 91-378, 91-378, pt. 2, accompanying H. R. 12549
(Comm. on Merchant Marine & Fisheries) and 91-765
(Comm. of Conference).

SENATE REPORT No. 91-296 (Comm. on Interior & Insular Affairs).

CONGRESSIONAL RECORD, Vol. 115 (1969):

July 10: Considered and passed Senate.

Sept. 23: Considered and passed House, amended, in lieu of
H. R. 12549.

Oct. 8: Senate disagreed to House amendments; agreed to
conference.

Dec. 20: Senate agreed to conference report.

Dec. 22: House agreed to conference report.

WILLIAM FELLER, 63, professor of mathematics, Princeton University, Princeton, N.J.: For original and definitive contributions to pure and applied mathematics, for making probability available to users, and for pioneering work in establishing *Mathematical Reviews*.

ROBERT JOSEPH HUEBNER, 55, Chief, Viral Carcinogenesis Branch, National Cancer Institute, National Institutes of Health, Bethesda, Md.: For contributions to the modern understanding of the biology of viruses and their role in the induction of diverse diseases.

JACK ST. CLAIR KILBY, 46, manager, customer requirements department, Texas Instruments, Inc., Dallas, Tex.: For original conceptions and valuable contributions in the production and application of integrated circuits.

ERNST MAYR, 65, director and professor, Museum of Comparative Zoology, Harvard University, Cambridge, Mass.: For notable contributions to systematics, biogeography, and the study of birds, and especially for great work on the evolution of animal populations.

WOLFGANG KURT HERMANN PANOFSKY, 50, director and professor, Stanford Linear Accelerator Center, Stanford University, Stanford, Calif.: For classic experiments probing the elementary particles of matter and for contributions to advancing the means of experimentation in this challenging field.

The National Medal of Science was established in 1959 by the 86th Congress. It is presented to individuals who, in the judgment of the President, "are deserving of special recognition by reason of their outstanding contributions to knowledge in the physical, biological, mathematical, or engineering sciences."

The President is assisted in the selection of recipients by the President's Committee on the National Medal of Science, a committee of distinguished scientists currently chaired by Dr. Max Peters, Dean of Engineering, University of Colorado, Boulder.

NOTE: The announcement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

National Environmental Policy Act of 1969

Statement by the President Upon Signing Bill Establishing the Council on Environmental Quality. January 1, 1970

It is particularly fitting that my first official act in this new decade is to approve the National Environmental Policy Act.

The past year has seen the creation of a President's Cabinet Committee on Environmental Quality, and we have devoted many hours to the pressing problems of pollution control, airport location, wilderness preservation, highway construction, and population trends.

By my participation in these efforts I have become further convinced that the 1970's absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters, and our living environment. It is literally now or never.

I, therefore, commend the Congress and particularly the sponsors of this bill, Senators Stevens and Jackson and Representative Dingell, for this clear legislative policy declaration. Under the provisions of this law a three-member council of environmental advisers will be appointed. I anticipate that they will occupy the same close advisory relation to the President that the Council of Economic Advisers does in fiscal and monetary matters. The environmental advisers will be assisted by a compact staff in keeping me thoroughly posted on current problems and advising me on how the Federal Government can act to solve them.

In the near future I will forward to the Senate names of highly qualified individuals to help both the Cabinet and me in the critical decisions that will affect the quality of life in the United States for years to come. I will then take the necessary executive action to reconstitute the Cabinet Committee and its staff to avoid duplication of function.

On the latter point, I know that the Congress has before it a proposal to establish yet another staff organization to deal with environmental problems in the Executive Office of the President. I believe this would be a mistake.

No matter how pressing the problem, to over-organize, to over-staff or to compound the levels of review and advice seldom brings earlier or better results.

We are most interested in results. The act I have signed gives us an adequate organization and a good statement of direction. We are determined that the decade of the seventies will be known as the time when this country regained a productive harmony between man and nature.

NOTE: The statement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

As enacted, the bill (S. 1075) is Public Law 91-190. For the President's remarks and an announcement of the signing of the bill, see the following two items.

National Environmental Policy Act of 1969

The President's Remarks at the Bill Signing Ceremony. January 1, 1970

As you know, the bill we are signing today is the environmental bill. There is one line in there that I am particularly stimulated by, when I said we had to work on the environment because it is now or never.

If you look ahead 10 years, you project population growth, car growth, and that means, of course, smog growth, water pollution, and the rest.

An area like this will be unfit for living, New York will be, Philadelphia, and, of course, 75 percent of the people will be living in areas like this.

So unless we start moving on it now—there is a lead time—unless we move on it now, believe me, we will not have an opportunity to do it later, because then when people have millions more automobiles, and, of course, the waters and so forth developing in the way that they do without plants for purification, once the damage is done, it is much harder to turn it around. It is going to be hard as it is.

That is why I indicate here that a major goal, when you talk about New Year's resolutions, I wouldn't say for the next year but for the next 10 years—and I don't mean that I intend to run for a third term—for the next 10 years for this country must be to restore the cleanliness of the air, the water, and that, of course, means moving also on the broader problems of population congestion, transport, and the like.

We are going to have more to say about it in the State of the Union Message, but this is the time to say some of it.

Congress has acted very commendably in setting up the Environmental Council by this bill. We already have an environmental council within the administration.

A great deal more needs to be done. There are many areas where you can work, maybe this year or 5 years or 10 years from now. It is a question of whether you put it off or do it now. This is an area where we have to do it now. We may never have a chance later. That is the way I feel.

Then when you look at it, too, I have noted in all my conversations with the heads of government of the major industrial nations—for example, Sato in Japan, Wilson in England, the German leaders, the new Chancellor, Brandt, the French leaders, the Italians, and all the rest—all of them have similar problems.

That is why we have raised this issue in the whole NATO Council, in the challenges of modern society. Moynihan has been meeting with them, as you know.

What we really confront here is that in the highly industrialized, richest countries, we have the greatest danger. Because of our wealth we can afford the automobiles, we can afford all the things that pollute the air, pollute the water, and make this really a poisonous world in which to live.

That doesn't mean that the less advanced countries don't have problems, in Africa, in parts of Asia and so forth, although the greatest cities in many of those areas are beginning to confront the same problems. Some of the worst traffic jams I have ever seen are in Bangkok, even Djakarta.

Incidentally, this has to be done on a bipartisan basis and it also has to be on a bigger than Federal Government basis. You have to get the State governments in it and the city governments. It is a place particularly where massive volunteer activities are going to be necessary because of some of the problems involved.

It doesn't involve just air, water, and traffic, which are the obvious ones, but it also involves open space, leisure time. What are people going to do?

As we drove along, for example, we saw a sign pointing to Leisure World. I don't know whether any of you have been there. I was there a few years ago, 15 years ago. This is one of several very exciting projects that are being developed for older people, where they live. The people live longer if they retire sooner, if they have longer vacations. There is the question of what are we going to do with them, where are they going to go. This is why we are looking into these problems in terms that are much broader than simply the immediate ones of air, water, and so forth.

Well, I will talk some more on that later.

NOTE: The President spoke at 10:10 a.m., P.s.t., in his office at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

For a statement by the President on signing the bill, and an announcement of the signing, see the preceding and following items.

National Environmental Policy Act of 1969

Announcement of Signing of the Bill Into Law. January 1, 1970

The President has approved S. 1075 creating a Council on Environmental Quality within the Executive Office of the President, and requiring an annual Presidential Report on environmental quality.

The bill, which is similar to the bill which created the Council of Economic Advisers in 1946, has the following major provisions:

(1) It declares that it is the policy of the Federal Government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans.

(2) It establishes within the Executive Office of the President a full-time, three-man Council on Environmental Quality which will be appointed by the President and subject to Senate confirmation.

(3) It requires the President to submit to Congress annually, beginning July 1, 1970, environmental quality reports. This report will set forth the status of the Nation's various environmental programs and will review the impact of these on the environment and on the conservation, development, and use of our national resources.

(4) The Council on Environmental Quality will have the following major duties: (a) assist and advise the President in the preparation of the annual report; (b) develop and recommend to the President national policies which promote environmental quality; and (c) accumulate necessary data for a continuing analysis of changes or trends in the national environment.

The bill was sponsored by Senator Henry Jackson of Washington and Senator Theodore F. Stevens of Alaska.

NOTE: The announcement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

For the President's statement and remarks upon signing the bill, see the two preceding items.

Disaster Assistance for Illinois

Announcement of Allocation of Additional Funds for Repair of Damage Caused by Spring Floods.

January 2, 1970

The President has allocated to Illinois an additional \$50,000 for such disaster relief activities as repair and replacement of essential public facilities damaged or destroyed by spring floods.

Today's allocation is from the President's Disaster Fund as provided by the Federal Disaster Act (Public Law 81-875). It follows a major disaster declaration by the President on June 6 and previous allocations totaling \$750,000.

The money is being administered by the Battle Creek, Michigan headquarters of the Office of Emergency Preparedness, part of the Executive Office of the President.

NOTE: The announcement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

Disaster Assistance for Minnesota

Announcement of Allocation of Additional Funds for Repair of Damage Caused by Spring Floods.

January 2, 1970

The President has allocated to Minnesota an additional \$175,000 for Federal relief measures including repair or replacement of public property damaged by spring floods.

Today's action follows an April 18 major disaster declaration by the President, made at the request of Governor Harold LeVander. With this allocation, Federal funds made available to the State for this disaster total \$5,175,000.

The money is authorized by the Federal Disaster Act (Public Law 81-875) and will be administered by the

Office of Emergency Preparedness regional headquarters in Battle Creek, Michigan.

NOTE: The announcement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

Imports of Carpets and Rugs

Announcement of Proclamation on Tariff Rates.

January 2, 1970

The President has issued a proclamation which will result in significantly lower tariff rates for most of the Wilton and velvet carpets and rugs, imported into the United States.

His action will continue present tariffs for carpets of non-Oriental design, but will allow rates for carpets of Oriental design to fall from 40 to 21 percent. Most of our carpet imports are of Oriental design and will therefore benefit from the lower rate.

In taking this action, he is accepting in large part the recommendation of the Tariff Commission that the relief granted to the U.S. Wilton and velvet carpet industry since 1962 under the escape clause should be eliminated. President Kennedy raised the tariff rate for such carpets from the 21 percent level then in effect to 40 percent in 1962. President Johnson extended that increased rate in 1967, through December 31 of this year.

After a careful review of this policy, he concluded that a continuation of the 40 percent rate is not justified for Oriental design carpet and that the rate can be allowed to revert to pre-escape clause levels without serious adverse effects on the economy. In his November 18 trade message to Congress, he indicated that it is imperative that protective duties be properly removed when they are no longer justified.

As for non-Oriental design carpets and rugs, he extended the escape clause rates at their current level. However, he will ask the Tariff Commission for additional information regarding this type of carpet to help determine whether any further action is necessary with regard to tariffs on such floor coverings.

When carpet duties were raised in 1962, certain retaliatory duties were imposed on U.S. exports by foreign countries. It is hoped that this liberalization of our tariff structure for Wilton and velvet carpets will result in reciprocal actions by other governments.

NOTE: The announcement was released at San Clemente, Calif. As printed above, this item follows the text received by teletype prior to receipt of the White House press release.

For the text of Proclamation 3953, see the following item.

Imports of Carpets and Rugs

*Proclamation 3953. Dated December 31, 1969.
Filed January 2, 1970*

PARTIAL EXTENSION OF INCREASED DUTY ON IMPORTS OF CARPETS AND RUGS

*By the President of the United States of America
a Proclamation*

1. WHEREAS, pursuant to Section 7 of the Trade Agreements Extension Act of 1951 and in accordance with Article XIX of the General Agreement on Tariffs and Trade (61 Stat. (pt. 5) A58; 8 U.S.T. (pt. 2) 1786), the President by Proclamation No. 3454 of March 19, 1962 (76 Stat. 1452), as modified by Proclamation No. 3458 of March 27, 1962 (76 Stat. 1457), proclaimed, effective after the close of business June 17, 1962, and until the President otherwise proclaimed, an increased duty on imports of certain carpets and rugs and other floor coverings;

2. WHEREAS, after compliance with the requirements of Section 102 of the Tariff Classification Act of 1962 (76 Stat. 73), the President by Proclamation No. 3548 of August 21, 1963 (77 Stat. 1017), proclaimed, effective on and after August 31, 1963, the Tariff Schedules of the United States, which reflected, with modifications, and, in effect, superseded, Proclamation No. 3454 by providing for the increased duty on imports of such floor coverings in item 922.50 in Subpart A of Part 2 of the Appendix to the Tariff Schedules of the United States;

3. WHEREAS, pursuant to Section 351(c)(2) of the Trade Expansion Act of 1962 and in accordance with Article XIX of the General Agreement on Tariffs and Trade, the President, by Proclamation No. 3815 of October 11, 1967 (81 Stat. 1138), extended the increased rates of duty on imports of floor coverings provided for in item 922.50 in Subpart A of Part 2 of the Appendix to the Tariff Schedules of the United States to the close of December 31, 1969;

4. WHEREAS, the increased duty on imports of floor coverings provided for in item 922.50 will terminate at the close of December 31, 1969, in accordance with Section 351(c)(1)(B) of the Trade Expansion Act of 1962, unless extended under Section 351(c)(2) of that Act;

5. WHEREAS, in relation to the possible extension of such increased duty, I have received and taken into ac-

count the advice from the Tariff Commission and the advice of the Secretary of Commerce and Secretary of Labor in accordance with Section 351(c)(2) of the Trade Expansion Act of 1962, recommendations of the Special Representative for Trade Negotiations in accordance with Sections 3(b), 3(j), and 5(c) of Executive Order No. 11075 of January 15, 1963 (48 CFR 1.3(b), 1.3(j), and 1.5(c)), and advice of other interested agencies of the Government; and

6. WHEREAS, pursuant to Section 351(c)(2) of the Trade Expansion Act of 1962 and in accordance with Article XIX of the General Agreement on Tariffs and Trade, I have determined that the partial extension, as herein proclaimed, of the increased duty on imports of floor coverings provided for in item 922.50 is necessary to prevent serious injury and is in the national interest.

NOW, THEREFORE, I, RICHARD NIXON, President of the United States of America, acting under the authority vested in me by the Constitution and the statutes, including Section 351(c)(2) of the Trade Expansion Act of 1962, and in accordance with Article XIX of the General Agreement on Tariffs and Trade, do proclaim that the increased rate of duty on imports of floor coverings provided for in item 922.50 in Subpart A of Part 2 of the Appendix to the Tariff Schedules of the United States is extended in part, as amended below, with respect to articles entered, or withdrawn from warehouse, for consumption during the period beginning on January 1, 1970, and ending at the close of December 31, 1972, unless the President proclaims otherwise pursuant to Section 351(c)(1) or (2) of the Trade Expansion Act of 1962. The article description in item 922.50 shall read:

"Wilton (including brussels) and velvet (including tapestry) floor coverings, and floor coverings of like character or description, provided for in item 360.46 of Part 5A of Schedule 3 all the foregoing other than imitation oriental floor coverings."

IN WITNESS WHEREOF, I have hereunto set my hand this 31st day of December in the year of our Lord nineteen hundred and sixty-nine, and of the Independence of the United States of America the one hundred and ninety-fourth.

RICHARD NIXON

[Filed with the Office of the Federal Register, 4:00 p.m.,
January 2, 1970]

NOTE: Proclamation 3953 was not issued in the form of a White House press release. For an announcement of the proclamation, see the preceding item.